Exploring the Role of Law in Preventing Non-Communicable Diseases

Chapters on Children's Oral Health and Food Environments

S. D. Mollet

Propositions

1. Law is an effective tool to promote health and prevent non-communicable diseases by structuring society in a way that sets conditions for good health. Lawyers can support fields like public health dentistry in fostering population-level policies to promote good oral health.

2. In studying or deploying the law to prevent non-communicable diseases, the law(s) considered should not be analysed in silos, as laws at different levels and laws in sectors outside public health can have an impact on non-communicable disease risk factors.

3. Laws set measures that can directly impact individual behaviour (measure-setting laws) and set binding standards that are normative to the overall system (norm-setting laws): norm-setting laws can help inform balanced measure-setting laws, especially in policy areas where the commercial determinants of health are of central concern.

4. Besides obligations in the context of oral health care, the right to the highest attainable standard of oral health under international law requires States to ensure primary prevention and address risk factors, such as sugars consumption, to reduce the development of dental caries.

5. As the vast majority of individuals is exposed to food environments that predispose them to unhealthy food choices, it is important to supplement individual responsibility with laws that create an enabling environment.

6. In the context of non-communicable diseases, distinguishing between interventional and incidental public health laws provides for relevant insights into EU public health law, and can foster health in all policies in the EU context.

7. Research experiences gained over the course of this project confirm that a high proximity (physical access) to a *gelateria* predisposes increased *gelato* consumption.

8. The empirical findings of this research project demonstrate that a *gelato* a day does not keep the dentist away (n=1).

Exploring the Role of Law in Preventing Non-Communicable Diseases:

Chapters on Children's Oral Health and Food Environments

Sarienten Dominique Mollet

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Exploring the Role of Law in Preventing Non-Communicable Diseases

Chapters on Children's Oral Health and Food Environments

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Aan degenen die me groot hebben gebracht, als mens en als wetenschapper
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LIST OF ABBREVIATIONS

AAAQ	Availability, Accessibility, Acceptability, Quality
AVMSD	Audiovisual Media Services Directive
BMI	Body Mass Index
CAP	Common Agricultural Policy
CDP	Collaborative Doctoral Partnership (Programme, of the European Commission)
CESCR	Committee on Economic, Social and Cultural Rights
CFR	Charter of Fundamental Rights of the European Union
CRC	Convention on the Rights of the Child
CvB	College van Beroep (Board of Appeal)
ECHR	Convention for the Protection of Human Rights and Fundamental Freedoms (European Convention on Human Rights)
ECtHR	European Court of Human Rights
EEC	European Economic Community
EML	WHO Model List of Essential Medicines
ESC	European Social Charter
EU	European Union
FCTC	WHO Framework Convention on Tobacco Control
FIC	Food Information to Consumers (Regulation)
GATT	General Agreement on Tariffs and Trade
GOHAP	Global Oral Health Action Plan 2023-2030
HFSS	Foods high in saturated fatty acids, trans-fatty acids, free sugars and/or salt, usually highly processed, whose consumption is associated with negative health effects
HLPE	High Level Panel of Experts (on Food Security and Nutrition)
ICCPR	International Covenant on Civil and Political Rights
ICESCR	International Covenant on Economic, Social and Cultural Rights
INFORMAS	International Network for Food and Obesity/non-communicable diseases Research, Monitoring and Action Support
JA	Joint Action
JRC	Joint Research Centre (of the European Commission)
KJC	Kinder- en Jeugdreclamecode (Children and Youth Advertising Code)
NCDs	Non-communicable diseases
NRC	Nederlandse Reclame Code (Dutch Advertising Code)
RCC	Reclame Code Commissie (Advertising Code Committee)
RSM	Reclamecode Social Media & Influencer Marketin (Advertising Code for Social Media and Influencer Marketing)
RVV	Reclamecode voor Voedingsmiddelen (Advertising Code for Foodstuffs)

SIA	Sustainability Impact Assessment
SPS	Sanitary and Phytosanitary (Agreement)
SRC	Stichting Reclame Code (Advertising Code Foundation)
TAD	Tobacco Advertising Directive
TBT	Technical Barriers to Trade (Agreement)
TEC	Treaty establishing the European Community
TEU	Treaty on European Union
TFEU	Treaty on the Functioning of the European Union
TPD	Tobacco Products Directive
TRIPS	Trade-Related Aspects of Intellectual Property Rights (Agreement)
UHC	Universal Health Coverage
WHO	World Health Organization
WTO	World Trade Organization

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Chapter 1

Transcending disciplines and boundaries, bridging gaps: an introduction

1. SETTING THE STAGE: AN INTRODUCTION TO THE RESEARCH PROJECT

This dissertation is the product of a collaboration between the late Professor Brigit Toebes (Law Faculty, University of Groningen) and Professor David Manton (Centre for Dentistry and Oral Health Care, University Medical Centre Groningen). In 2020, they combined their respective expertise in health law and in paediatric dentistry and submitted a proposal on 'how law and policy may optimally protect child oral health' with the Joint Research Centre (JRC) of the European Commission, for a shared PhD candidate under the Collaborative Doctoral Partnership (CDP) Programme.[1] The proposed project would ambitiously 'identify concrete law and policy solutions to enhance child oral health'.[2] In 2021, the European Commission accepted the proposal under the CDP Programme and, as of September of that year, both the University of Groningen and the European Commission became the homes of the research, as well as the PhD researcher, the present author, Dominique Mollet.

The research for this dissertation thus began with an ambitious proposal suggesting that the PhD candidate would conduct:

> 'legal (descriptive and normative) research […], mapping and analysing existing laws and policies at international, regional and domestic levels. Through a comparative analysis of (approximately) five countries, evidence-based best practices are detected that are aimed at creating optimal conditions for [child oral health]'.[3]

It soon became clear that, for the project to adopt a realistic form, the connection between the broad concept of 'law' and the broad concept of 'child oral health' first had to be established from scratch and that the scope of the project had to be narrowed down.

The construction and timeline of this project, as well as the interdisciplinary expertise among the supervisors have had an important impact on the decisions made. The research for this project started immediately after the PhD candidate earned her LLM degrees in Public International Law and European Economic Law at the University of Groningen in 2021. This background explains the broad conceptualization of the concept of law in this dissertation: international (human rights) law and EU law play an important role in the dissertation, but other levels of law are similarly prominent. From September 2021 to 2022, the research for this dissertation was conducted in Groningen. During this period, the author focused on

1 The quote originates from the 'Call for expressions of interest to participate in Collaborative Doctoral Partnerships' as submitted by Professor Toebes and Professor Manton.

2 The quote originates from the 'Call for expressions of interest to participate in Collaborative Doctoral Partnerships' as submitted by Professor Toebes and Professor Manton.

3 The quote originates from the 'Call for expressions of interest to participate in Collaborative Doctoral Partnerships' as submitted by Professor Toebes and Professor Manton.

clarifying the approach for the project. Building on Professor Toebes' expertise on the right to health under international law, the project's focus was narrowed down to the underlying determinants of health, while access to (oral) health care was excluded from the scope of the PhD project. Furthermore, the author similarly deepened her understanding of child oral health through engagement with Professor Manton. This interaction is at the basis of the second demarcation of the project's scope: the research's focus is limited to dental caries in children.

Following the successful application of Professors Toebes and Manton for a joint PhD under the European Commission's CDP Programme, the second and third year of the PhD timeline, from September 2022 to 2024, were spent at the European Commission's JRC in Ispra in Italy. The JRC is 'the science and knowledge service of the European Commission' and 'provides evidence-based knowledge to support EU policies and positively impact society'.[4] The JRC thus puts science at the heart of EU policymaking in many areas, including energy, sustainable food systems, environmental protection, and health.[5] The CDP programme facilitates joint doctoral research between universities and the JRC. It 'aims to train a new generation of doctoral graduates on the science-policy interface, integrating doctoral research into the scientific portfolios of the JRC'.[6] The proximity to the policy cycle and the collaborative nature of the programme have similarly had a great impact on decisions taken in the PhD research project.

During this time, the research and researcher found their home within the interdisciplinary Health Promotion team. Under the guidance of Doctor Jan Wollgast, who also supervised this PhD project and is the third promotor in the PhD project, the Health Promotion team consists of public health professionals with a particularly large number of colleagues working in the domain of food and nutrition.[7] The author brought legal expertise to the team, which asked for flexibility and an open mind. Having to find one's place in an interdisciplinary team where one's expertise is not yet represented was challenging at first but enriched the research project and the researcher's experience in the end. Accordingly, the interdisciplinary interactions within the Health Promotion team have had a great impact on further decisions concerning the direction and demarcation of the scope of the PhD project: in researching law in the context of (the underlying determinants of) poor child oral health, particularly dental caries among children, the regulation of food environments, as the settings in which dietary

4 'Joint Research Centre' (*European Commission*) <https://joint-research-centre.ec.europa.eu/index_en> accessed 23 February 2026.

5 'Collaborative Doctoral Partnership (CDP) programme' (*European Commission*) <https://joint-research-centre.ec.europa.eu/work-us/collaborative-doctoral-partnership-cdp-programme_en> accessed 23 February 2026.

6 Original formatting omitted, CDP webpage (n 5).

7 Besides expertise in this domain, the team also has expertise in psychology, social sciences, health economics, epidemiology and micro-biology.

choices are made including those involving sugars consumption, became the focal point of this research project.

For the fourth and fifth year of the PhD project, the author returned to the University of Groningen as a part-time lecturer and part-time PhD candidate. The increased engagement with students, including on public health law and food environments helped the author clarify overlooked gaps that were not visible from the inside, but became obvious when taking a step back. These years were used to refine the research and fill in any gaps that remained.

Doing a PhD is not a walk in the park. This project can rather be portrayed as an expedition: starting with an ambitious proposal, the author had to seek for crossovers within the increasingly converging streams of law and child oral health as the foundation of this project and build on that. The approach adopted in this dissertation is the path the author decided to take in the expedition, guided by her surroundings, particularly her supervisors, colleagues, and academic experiences; our choices and work as researchers are also products of our (academic) environments. This results in the fact that the connections made, and the structure of this dissertation are sometimes unavoidably complex.

This dissertation is the product of four-and-a-half years of research. It is positioned in public health law and explores the role of law in preventing non-communicable diseases (NCDs). It does so in the context of children's oral health, particularly dental caries, and food environments, which affect people's dietary choices, including their intake of sugars as the key risk factor for dental caries. The three themes that are at the core of this dissertation are, therefore, child oral health; food environments; and law. It aims to lay the foundations to bridge the three themes, so that researchers can cross the gaps and cross-fertilise further research in these areas. It thereby presents unique insights into the interaction between law and (dental) public health emphasising general questions of law and public health over concrete, substantive ones. The present chapter introduces the presumptions on which this dissertation is built, advances the three themes, and explains how they are understood throughout the chapters. This is followed by an elaboration on the research design, and methods and methodological considerations that underpin the dissertation. Given the complex nature of the themes included in this dissertation and that the chapters are also stand-alone articles, this introduction brings them together, while it addresses themes and, especially, methods adopted in chapters separately.

2. INTRODUCING THE THEMES AND THEORETICAL PRESUMPTIONS AT THE BASIS OF THIS DISSERTATION

Dental caries is the most common NCD worldwide; globally, two billion persons suffer from this condition in their permanent teeth.[8] It is estimated that over 510 million children globally suffer from dental caries in primary teeth, making it the most prevalent childhood NCD.[9] Dental caries is behavioural in nature: diets, more concretely the consumption of (free) sugars, are the single driver of the disease, while other behavioural factors, including dental hygiene, mitigate its effect.[10] Dental caries in primary teeth has long been overlooked, given that primary teeth exfoliate during childhood and were therefore thought as relatively unimportant.[11] Notably, however, the prevalence and severity of early childhood caries are highest amongst children in vulnerable situations,[12] and can have serious implications beyond oral health and childhood.[13] The exorbitant global prevalence of dental caries is particularly striking in light of the fact that it is largely preventable.[14]

The notion that law plays a cross-cutting role in preventing NCDs has gained traction and is now commonly accepted.[15] The current 5x5 NCD agenda focuses on five diseases (cardiovascular diseases, cancer, diabetes, chronic respiratory diseases and mental health (suicide)); and their five main risk factors (tobacco use, unhealthy diets, harmful use of alcohol, physical

8 'Sugars and dental caries' (*World Health Organization*, 14 August 2025) <https://www.who.int/news-room/fact-sheets/detail/sugars-and-dental-caries#:~:text=Overview,mental%20and%20social%20well%2Dbeing.> accessed 26 March 2026. Note that the Global Oral Health Action Plan 2023-2030 (GOHAP) published in 2024 reports that untreated dental caries in permanent teeth is prevalent among 2.3 billion people and untreated dental caries in primary teeth is prevalent among more than 530 million children, *Global strategy and action plan on oral health 2023-2030* (Geneva: World Health Organization, 2024) (hereinafter WHO GOHAP) 86. The Global oral health status report (2022) states that more than 2 billion people suffer from untreated dental caries in permanent teeth and 514 million children suffer from untreated dental caries in primary teeth, *Global oral health status report: towards universal health coverage for oral health by 2030* (Geneva: World Health Organization, 2022) (hereinafter WHO Global Oral Health Status Report) 30. This dissertation uses the number referred to in the most recent publication, but note has been taken of the differences in precise numbers.

9 WHO Global Oral Health Status Report (n 8) 30.

10 A Sheiham and WPT James, 'Diet and Dental Caries: The Pivotal Role of Free Sugars Reemphasized' (2015) 94 Journal of Dental Research 1341, 1341-1342.

11 *Ending Childhood Dental Caries: WHO Implementation Manual* (Geneva: World Health Organization, 2019) vii.

12 WHO GOHAP (n 8) 86.

13 Including discomfort and pain, and they are more likely to carry the risk of dental caries into their later lives and pass it onto future generations through behavioural habits, WHO Global Oral Health Status Report (n 8) 37; DM Shearer, WM Thomson, JM Broadbent and R Poulton, 'Maternal oral health predicts their children's caries experience in adulthood' (2011) 90 Journal of Dental Research 672; DM Shearer and WM Thomson, 'Intergenerational continuity in oral health: a review' (2010) 38 Community Dentistry and Oral Epidemiology 479.

14 RG Watt, B Daly, P Allison and others, 'Ending the neglect of global oral health: time for radical action' (2019) 394 Lancet 261, 264.

15 See, for example, B McGrady, K Khanijo and S Zhou, 'Law and NCD prevention and control' in N Banatvala and P Bovet (eds), *Noncommunicable Diseases: A Compendium* (New York, Routledge 2023) 340; RS Magnusson and D Patterson, 'The role of law and governance reform in the global response to non-communicable diseases' (2014) 10 Globalization and Health 1.

inactivity and air pollution).[16] The most prevalent category of NCDs, oral NCDs that share some of the risk factors included in the agenda and particularly the consumption of free sugars (as part of unhealthy diets), is conspicuous by its absence on this agenda.[17] The World Health Organization (WHO) adopted the Global Oral Health Action Plan 2023-2030 (GOHAP) and recognized the 'the highest attainable standard of oral health [as] a fundamental right of every human being' for the first time.[18] A voice that was somewhat silent previously was raised in the GOHAP - it highlights the need for population-based (prevention) measures in which regulatory policies and law inherently play an important role.[19]

This voice, that population-based preventive measures, in this case laws, are important to be studied and deployed, also marks the starting point of this dissertation. On the one hand, it has been widely recognized, both in the legal and public health discourses, that law can play an important role in protecting and promoting public health.[20] On the other hand, such measures have only been studied limitedly in the context of oral health, particularly in the legal discourse. In recent years, attention has been shifting from an individualized approach to a more population-based approach in dental research.[21] For example, the 2019 Lancet Special Series dedicated to oral health made clear it was 'time for radical action',[22] advocating in favour of '[s]imple, cost-effective, and equitable interventions […], as well as population-wide upstream policy measures to reduce risks that are common to NCDs and oral diseases'.[23] Similarly, Moynihan and Miller argued in favour of a number of population-level measures promoting good oral health.[24] Multiple publications by Jean and colleagues connected the topic of oral health more directly to legal questions, and examined, amongst other things, the current status of the right to oral health.[25]

16 'Follow-up to the political declaration of the third high-level meeting of the General Assembly on the prevention and control of non-communicable diseases' (*World Health Organization,* 27 April 2022) A75/10 Add. 8, Annex 1, para. 6.

17 H Benzian, A Daar and S Naidoo, 'Redefinining the non-communicable disease framework to a 6x6 approach: incorporating oral diseases and sugars' (2023) 8 Lancet Public Health E899.

18 WHO GOHAP (n 8) para. 15.

19 WHO GOHAP (n 8) para. 10.

20 See, for example, *Guideline: Sugars intake for adults and children* (Geneva: *World Health Organization*, 2015) (hereinafter WHO Sugars Guideline); *Tackling NCDs: best buys and other recommended interventions for the prevention and control of noncommunicable diseases* (Second edn, Geneva: World Health Organization, 2024) (hereinafter WHO Best Buys).

21 See, for example, Watt and others (2019) (n 14) 264.

22 Watt and others (2019) (n 14) 261.

23 Watt and others (2019) (n 14) 269.

24 P Moynihan and C Miller, 'Beyond the Chair: Public Health and Governmental Measures to Tackle Sugar' (2020) 99 J Dent Res 871

25 G Jean, *Child dental health and human rights: Australia's health and human rights obligations as a signatory to the Convention on the Rights of the Child* (PhD thesis, University of Western Australia 2021); G Jean, E Kruger and V Lok, 'Oral Health as a Human Right: Support for a Rights-Based Approach to Oral Health System Design' (2021) 71 Int Dent J 353; G Jean, E Kruger, V Lok and M Tennant, 'The Right of the Child to Oral Health: The Role of Human Rights in Oral Health Policy Development in Australia' (2020) 28 J Law Med 214.

This dissertation particularly covers the determinants dimension of oral health. Framing it within the concept of the right to health as enshrined in Article 12 of the International Covenant on Economic, Social and Cultural Rights (ICESCR) –[26] which includes both a right to health care and the right to health in the context of the underlying determinants of health – this dissertation is written in the domain of the underlying determinants of health, particularly food and nutrition and their regulation as an underlying determinant of child oral health.[27] Accordingly, with the underlying determinants at the core, access to (oral) health care is not within the focus of this dissertation.[28]

Three interrelated components are at the basis of this dissertation: child oral health, food environments, and law. (Good) child oral health, particularly the prevention of dental caries, is considered the 'end' or the objective. There are multiple factors that are determinative of dental caries' development, including biological and genetic factors.[29] There are multiple means to contribute to this end,[30] but the factor singled out in this dissertation is law. As law can also contribute to realising the end in multiple ways,[31] the medium or context in which its role is particularly studied is (selected components of) the concept of food environments. Schematically, this can be presented in the following manner:



Figure 1. The relationship between child oral health, food environments and law in this dissertation.

26 International Covenant on Economic, Social and Cultural Rights (adopted 16 December 1966, entered into force 23 March 1976) 999 UNTS 171 (hereinafter ICESCR), Art. 12.

27 *CESCR General Comment No. 14: The Right to the Highest Attainable Standard of Health (Art. 12)* (United Nations Committee on Economic, Social and Cultural Rights, 11 August 2000) E/C.12/2000/4 (hereinafter CESCR GC No. 14), para. 4.

28 Note that Chapters 2 and 3 consider access to oral health care as part of a right to health-based approach to dental caries and the child's right to oral health.

29 Ending Childhood Dental Caries: WHO Implementation Manual (n 11) 3.

30 The practicing of favourable oral hygiene practices, fluoride exposure and (dental) care attendance – whether these be promoted at a population-level or practiced at the individual level – are among the factors that contribute to the prevention of dental caries, Ending Childhood Dental Caries: WHO Implementation Manual (n 11) 9-40. For an overview on child, family and community influences on oral health outcomes of children, please consult Ending Childhood Dental Caries: WHO Implementation Manual (n 11) 3.

31 Law and policy can also contribute to realising the end, through requiring health education promoting oral hygiene, fluoride exposure (including water fluoridation) and dental care attendance, see Chapter 3 (section 4) of this dissertation, which was published as SD Mollet, 'Conceptualizing the Child's Right to Oral Health: A Rights-Based Approach to Dental Caries' (2025) 27 HHR 351, 354-355; SR Vinceti, F Veneri, T Filippini, 'Water fluoridation between public health and public law: an assessment of regulations across countries and their preventive medicine implications' (2024) 36 Ann Ig 261; Ending Childhood Dental Caries: WHO Implementation Manual (n 11) 22-27; Y Lee, 'Diagnosis and Prevention Strategies for Dental Caries' (2013) 3 Journal of Lifestyle Medicine 107, 109.

The following sub-sections introduce, define, and connect the three themes in the order indicated in figure 1 (child oral health; food environments; and law). Whilst law as a means is the subject of study throughout the entire dissertation, it is studied for the obtainment of good child oral health via reduction of the exposure to the key risk factor for dental caries, exposure to free sugars, by shaping the food environment through laws. To set the context and introduce the matter in light of which the entire dissertation is written, child oral health is introduced first. This is followed by a discussion of how the concept of food environments is studied as a medium in this dissertation. Finally, this dissertation's approach to studying law in general as a means is explained.

2.1 Child oral health (dental caries)

Child oral health is at the foundation of this dissertation, all chapters of this dissertation are, directly or indirectly and explicitly or implicitly, concerned with the obtainment of good child oral health. Its scope is restricted to the prevention of dental caries in children, as dental caries (in primary teeth) constitutes the most common oral NCD in childhood.[32] Dental caries, also known as tooth decay, is 'a gradual loss and breakdown (decay) of tooth hard tissues (enamel and dentine)'.[33] It leads to cavities, 'which are permanently damaged areas in the hard surface of the teeth ("holes" or "cavities")'.[34] The prevalence of dental caries in childhood is widespread, has major implications and is largely preventable.[35]

As indicated above, dental caries is widespread amongst populations; the estimated global prevalence of this disease is 43% and it is an issue that prevails in all global (income) regions,[36] although its prevalence is rapidly growing in low- and middle-income countries.[37] Dental caries is thus of global concern. Dental caries prevalence is even more widespread in primary teeth than in permanent teeth, as it is estimated that globally almost half (48%) of all preschool children (i.e., children below the age of six) have one or more decayed, missing or filled primary teeth.[38] Notably, rates of early childhood caries are highest among children in vulnerable situations, thereby disproportionately affecting some.[39] Addressing dental caries prevalence in children, whether that be in primary or permanent teeth, at a population-level is important due to the disease's serious implications.

32 WHO Global Oral Health Status Report (n 8) 30.

33 WHO Global Oral Health Status Report (n 8) 30.

34 WHO Global Oral Health Status Report (n 8) 30.

35 Watt and others (n 14) 264.

36 Despite large differences in prevalence among countries, the prevalence per World Bank country income group ranges between 38,30% for high income countries to 45,61% for upper-middle income countries, WHO Global Oral Health Status Report (n 8) 30-31.

37 Ending Childhood Dental Caries: WHO Implementation Manual (n 11) 1.

38 SE Uribe, N Innes and I Maldupa, 'The global prevalence of early childhood caries: A systematic review with meta-analysis using the WHO diagnostic criteria' (2021) 31 Int. J. Paediatr. Dent. 817.

39 WHO GOHAP (n 8) 86.

Beyond the direct impact of dental caries, including discomfort and pain, missed educational opportunities and, in severe cases, underweight and stunting,[40] the long-term implications of dental caries in childhood are also serious: through behavioural habits, children at increased risk of dental caries are more likely to carry that risk into their later lives and may pass the risk on to future generations.[41] They are also at increased risk of poor health in their later lives,[42] which can be explained by dental caries' shared risk factors with other NCDs.[43] These direct and indirect implications emphasise the special place of children in a life course approach to dental caries prevention: 'a good start to life [and] optimal development', or a lack thereof, may well have consequences beyond childhood.[44]

The high global prevalence of the condition combined with its serious implications is particularly striking in light of the fact that caries incidence is largely preventable. The incidence of dental caries is primarily driven by sugars consumption; frequent consumption turns the microbial biofilm (dental plaque) on the tooth surface into a cariogenic one, that metabolizes the sugars, producing acids that in turn dissolve the dental hard tissues (enamel and dentine), which leads to carious lesion development over time.[45] It is exactly the creation and subsistence of these acids, fuelled by sugars consumption, that need to be halted to prevent dental caries' incidence. Eliminating all dietary sugars is not a feasible solution – as it would lead to starvation – and a distinction needs to be made between free sugars (those found in sugar-sweetened beverages and solid foods, but also in honey or fruit juices) and intrinsic sugars (those found in fresh fruits, milk and dairy products).[46]. The WHO recommends the intake of free sugars to be less than 10% and preferably less than 5% of daily dietary energy.[47] In setting these recommendations, it explicitly takes into consideration the association between free sugars intake and dental caries incidence;[48] recent research confirms that if limiting intake of free sugars to 5% of total daily energy is achieved, very low caries prevalence is

40 WHO Global Oral Health Status Report (n 8) 37.

41 Shearer and others (2011) (n 13); Shearer and Thomson (2010) (n 13).

42 B Ruiz, JM Broadbent, W Murray Thomson and others, 'Childhood Caries Is Associated with Poor Health and a Faster Pace of Aging by Midlife' (2023) 83 J Public Health Dent 381. In connection to the association of dental caries incidence and mental health, please consult B Ruiz, JM Broadbent, W Murray Thomson and others, 'Caries Trajectories from Childhood to Adulthood Associated with Mental Disorders in Midlife' (2025) 85 J Public Health Dent 174.

43 Benzian and others (2023) (n 17).

44 *Framework to implement a life course approach in practice* (Geneva: World Health Organization, 2025) 3-4; RG Watt, MR Mathur, J Aida and others, 'Oral health disparities in children: A canary in the coalmine? (2018) 65 Pediatr Clin North Am 65; C Hertzman and C Power, 'Child development as a determinant of health across the life course' (2004) 14 Current Paediatrics 438. Note that in interpreting the child's right to health, the Committee on the Rights of the Child highlights this approach too and states that: 'Understanding the life course is essential in order to appreciate how health problems in childhood affect public health in general', *General Comment No. 15 (2013) on the right of the child to the enjoyment of the highest attainable standard of health (art. 24)* (Committee on the Rights of the Child, 2013) CRC/C/GC/15 (hereinafter CRC GC No. 15), para. 20.

45 Ending Childhood Dental Caries: WHO Implementation Manual (n 11) v.

46 WHO Sugars Guideline (n 20) 7.

47 WHO Sugars Guideline (n 20) 3.

48 WHO Sugars Guideline (n 20) 3.

a result, with more reduction in high risk groups.[49] Beyond moderating sugars consumption, especially its frequency, adopting adequate oral hygiene practices and exposing the teeth to fluoride are behavioural factors that can mitigate caries formation.[50]

It is exactly this line of reasoning that the dissertation follows – it focuses on law as a regulatory tool that can contribute to the mediation of behavioural (risk) factors, which in turn can contribute to the prevention or mitigation of dental caries development. As indicated previously, the approach adopted does not cover access to oral health care but is rather concerned with food and nutrition as underlying determinants of (child oral) health.

In the remainder of this dissertation, the terms 'child oral health' and 'dental caries' are both used, although their scopes differ: child oral health covers more than the experience of dental caries alone. In the remainder of this thesis, however, the term 'child oral health' is restricted in scope to dental caries presence, unless indicated differently. The scope is not restricted to early childhood caries or dental caries in primary teeth,[51] but also extends to dental caries in permanent teeth amongst children, considered to be persons under the age of 18 years.[52]

2.2 Food environments

Food environments are 'the physical, economic, political and socio-cultural contexts in which consumers make decisions about acquiring, preparing and consuming food' and broadly covers the physical access to food; economic access to food; food promotion, advertising and information; and food quality and safety.[53] Instead of studying the concept by itself, this dissertation presumes its construction and functioning based on the existing literature and builds on it to clarify how law is likely to contribute to the shape of food environments.

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49 Note that this study focuses on early childhood caries, ATM Dao, LG Do, N Stormon and others, 'G-Computation Quantifying Caries Reduction by World Health Organization Sugar Limits in Children' (2026) Journal of Dental Research 1. Early childhood caries is defined as '[c]aries characterized by the presence of one or more teeth affected by carious lesions or with white spot lesions in primary teeth, loss of teeth due to caries, or filled tooth surfaces in affected teeth of a child aged under the age of six years. Children with early childhood caries have been shown to have a high number of teeth affected by progressive disease', Ending Childhood Dental Caries: WHO Implementation Manual (n 11) v.

50 Ending Childhood Dental Caries: WHO Implementation Manual (n 11); Sheiham and James (2015) (n 10) 1341-1342.

51 Early childhood caries is defined as '[c]aries characterized by the presence of one or more teeth affected by carious lesions or with white spot lesions in primary teeth, loss of teeth due to caries, or filled tooth surfaces in affected teeth of a child aged under the age of six years. Children with early childhood caries have been shown to have a high number of teeth affected by progressive disease', Ending Childhood Dental Caries: WHO Implementation Manual (n 11) v.

52 This is in accordance with Convention on the Rights of the Child (adopted 20 November 1989, entered into force 2 September 1990) 1577 UNTS 3 (hereinafter CRC), Art. 1.

53 Nutrition and food systems: A report by The High Level Panel of Experts on Food Security and Nutrition (Rome: Committee on World Food Security, 2017) (hereinafter HLPE) 11, 26, 28. Note that other studies have identified similar but more narrow components to this framework, for an overview please consult Table 8 in Chapter 4 of this dissertation.

The premises adopted are well-illustrated by existing models conceptualizing food environments. The Report by the High Level Panel of Experts on Food Security and Nutrition (HLPE) is particularly illustrative for the first premise, focusing on the association between food environments and (poor) child oral health.[54] Zooming in on this association, the connections between food environments and health outcomes must be singled out (see figure 2). The HLPE characterises the food environment 'as an interface that mediates the acquisition of foods by people within the wider food system'.[55] Connected to it is consumer behaviour, which reflects 'all choices and decisions made by consumers […] on what food to acquire, store, prepare, cook and eat […]'.[56] Although consumer behaviour is determined by multiple (personal) factors, food environments consist of collective determinants of consumer food choices and are therefore considered influential for consumer's behaviour.[57] Consumer behaviour determines diets in terms of quantity, quality, diversity and safety.[58] Diets are then connected to nutrition and health outcomes.[59] Accordingly, the association between food environments and health outcomes is not further researched and presumed following the model presented in the HLPE report. The report does not concretise 'health outcomes' as oral diseases or dental caries specifically but indicates that they include the incidence of 'overweight, obesity and chronic diseases'.[60] Dental caries is thus assumed to be included within the definition of 'chronic diseases'.[61][62]

54 See figures 1 and 15, HLPE (n 53) 26 and 107.

55 HLPE (n 53) 28.

56 HLPE (n 53) 31. Note that the HLPE report also acknowledges that collective changes in consumer behaviour can be a determinative of the food environment. This dissertation does not consider this relation.

57 HLPE (n 53) 31.

58 HLPE (n 53) 32.

59 Besides social, economic and environmental impacts, HLPE (n 53) 26

60 HLPE (n 53) 96.

61 Although there appears to be some evidence that the food environment impacts oral health outcomes, it has important limitations, JD Mackenbach, EL Ibouanga, MH van der Veen and others, 'Relation between the food environment and oral health – systematic review' (2022) 32 Eur J Public Health 606.

62 HLPE (n 53) 26.

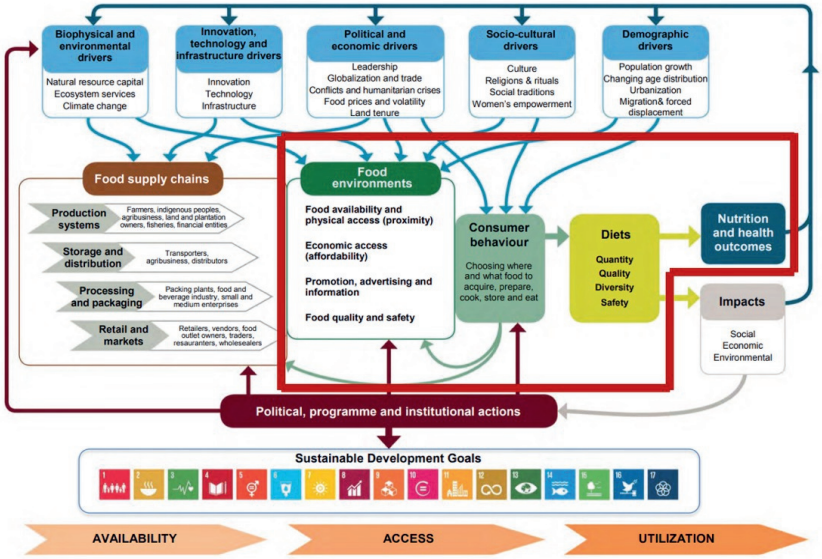

Figure 2. The conceptual framework of food systems for diet and nutrition, with the first premise of the present dissertation highlighted in the red box (adapted from HLPE, 2017)[62]

The subsequent association that is presumed in this dissertation is the association between law and food environments. This association is substantiated by the model developed by the International Network for Food and Obesity/non-communicable diseases Research, Monitoring and Action Support (INFORMAS),[63] and Downs, Ahmed, Fanzo and Herforth's model of the broader food system.[64] Zooming in on the latter framework (see figure 3), which consists of six layers in total ranging from ecosystems to diets, it must first be noted that law is not explicitly mentioned in the framework.[65] As an influential sphere determinative of food environments, the model lists sectors of influence, including agriculture, media, industry and trade/markets.[66] Sectors of influence are, in turn, determined by 'socio-cultural & political environment', including policies and governance.[67] The present dissertation accepts these associations, but adds two layers around 'socio-cultural & political environment'.[68] The

63 BA Swinburn, G Sacks, S Vandevijvere and others, 'INFORMAS (International Network for Food and Obesity/non-communicable diseases Research, Monitoring and Action Support): overview and key principles' (2013) 14 Obes Rev. 1.

64 Food systems cover 'all the elements (environment, people, inputs, processes, infrasctructures, institutions, etc.) and activities that relate to the production, processing, distribution, preparation and consumption of food, and the outputs of these activities, including socio-economic and environmental outcomes', HLPE (n 54) 11. Note that the model discussed focuses on sustainable food systems, rather than healthy food systems, SM Downs, S Ahmed, J Fanzo and A Herforth, 'Food Environment Typology: Advancing an Expanded Definition, Framework, and Methodological Approach for Improved Characterization of Wild, Cultivated, and Built Food Environments toward Sustainable Diets' (2020) 9 Foods 532.

65 Downs and others (2020) (n 64) figure 1.

66 Downs and others (2020) (n 64) figure 1.

67 Downs and others (2020) (n 64).

68 Downs and others (2020) (n 64) figure 1.

premise that law is an outcome of the socio-cultural and political environment (particularly governance and policies) and determinative of the behaviour of actors within the sector of influence (including agriculture, media, trade/markets and industry) is supported by the notion presented in INFORMAS that '[g]overnments, at international, national and subnational levels, through their *policies*, *laws and regulations*, provide the 'rules' within which the private sector [including industry, media and agriculture] must operate'.[69] Additionally, another layer of law is added above the sphere of socio-cultural and political environment. This is for human rights law, constitutions and similar types of law that can be determinative factors for policies and governance.

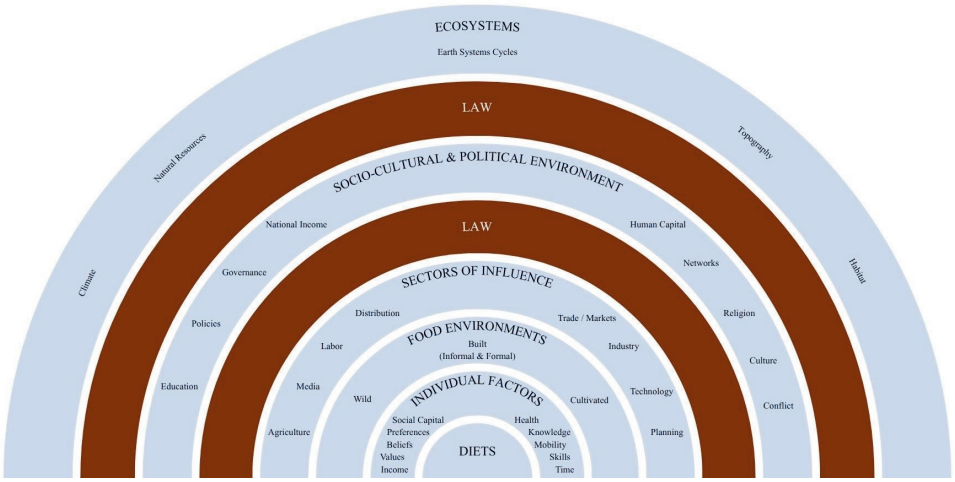

Figure 3. The relation of law and food environments, placed in the broader food system (adapted from Downs and others, 2020)[70]

Food environments are thus awarded an intermediate role in the theoretical presumption on which the dissertation is built: sugars consumption is a major driver of dental caries; food environments are amongst the determinative factors of our decisions concerning food consumption, including whether, how, when and how often individuals consume sugars; and laws are among the determinative factors of the shape of food environments.[70]

Finally, some terms in the context of food and nutrition must be defined from the outset. The term 'sugars' is used in multiple chapters of this dissertation. This term includes both intrinsic sugars ('those incorporated within the structure of intact fruit and vegetables [and]

69 Emphasis added, Swinburn and others (2013) (n 63) 14; G Sacks, BA Swinburn and M Lawrence, 'Obesity Policy Action framework and analysis grids for a comprehensive policy approach to reducing obesity' (2008) 10 Obes Rev. 76, 77. Note that the latter source considers 'laws and regulations' as policy instruments (p. 77).

70 Adapted with Canva by Anne Faber, Downs and others (2020) (n 64) figure 1.

sugars from milk (lactose and galactose)'),[71] and free sugars (including 'monosaccharides and disaccharides added to foods and beverages by the manufacturer, cook or consumer, and sugars naturally present in honey, syrups, fruit juices and fruit juice concentrates').[72] Whereas intrinsic sugars are part of a healthy diet, (high) intake of free sugars is associated with obesity and the risk of NCDs.[73] Additionally, a commonly used term in the research area of nutrition-related NCDs and their prevention is 'HFSS foods', which stands for 'foods high in saturated fatty acids, trans-fatty acids, free sugars and/or salt, usually highly processed, whose consumption is associated with negative health effects'.[74] Although the focus of this dissertation is particularly on (free) sugars, the scope is broadened in some chapters. These chapters may use the terms unhealthy food or diets, and diets high in HFSS foods interchangeably. Unless stated differently, these terms hold the same meaning for the purposes of this dissertation.

2.3 Law

Law has been recognised as an important determinant of health: as a key mechanism through which society is structured, they can establish the conditions for both good and poor health.[75] It is commonly reiterated that primary prevention policies can be effective and cost-efficient tools to reduce the incidence of NCDs.[76] Deployed in this way, laws are important and powerful public health interventions. Burris, Anderson and Wagenaar put forward the analogy of law as 'a ubiquitous treatment, one to which hundreds of millions of people are routinely exposed',[77] an analogy that finds itself at the core of the present dissertation.

Law – in broad terms – is the subject of study in all chapters of this dissertation. In principle, the law studied is conceptualized in a broad sense. An important delineation, however, is that this dissertation is limited to upstream (primary prevention) measures, which is particularly suitable for the theme of the present research. Laws addressing midstream and downstream (or secondary and tertiary prevention) measures are not considered here. Besides this delineation, law is studied in a broad sense. For example, this dissertation transcends boundaries

71 WHO Sugars Guideline (n 20) 7.

72 WHO Sugars Guideline (n 20) 7.

73 Not only for the increased risk of dental caries incidence, but also the potentially increased overall energy density of diets and decreased intake of foods containing more nutritionally adequate calories, see WHO Sugars Guideline (n 20) 7.

74 *Policies to protect children from the harmful impact of food marketing: WHO Guideline* (Geneva: World Health Organization, 2023) (hereinafter WHO Food marketing guideline) vi.

75 S Burris, ML Berman, M Penn and T Ramanathan Holiday, *The New Public Health Law: A Transdisciplinary Approach to Practice and Advocacy* (Oxford: OUP, 2022) 9.

76 Primary prevention has been defined as 'efforts to prevent disease or injury from occurring at all by eliminating risk factors', Burris and others (2022) (n 75) 12; WHO Best Buys (n 20).

77 Although this quote originates from a different context – namely of how to study laws as public health interventions, S Burris, ED Anderson and AC Wagenaar, 'The "Legal Epidemiology" of Pandemic Control' (2021) 348 New England Journal of Medicine 1973, 1973.

of legal orders, and includes laws at the international, regional (European Union (EU), and Convention for the Protection of Human Rights and Fundamental Freedoms (European Convention on Human Rights, ECHR)), domestic and local levels. These levels are discussed at different degrees of detail in the chapters of the dissertation. Furthermore, this dissertation differentiates between measure-setting laws and norm-setting laws, which are both included within the scope of this dissertation. Finally, the scope of the dissertation is also not limited to laws that have an intentional effect on health, as laws that non-intentionally have an impact on health or merely state competences and obligations are also included.

For heuristic reasons, particularly considering the research questions (see Section 3.2 below), this dissertation differentiates between two manners in which the law can be determinative of public health. On the one hand, it focuses on laws that directly regulate society – they act at a micro-level and their impact on health outcomes can, as such, be empirically evaluated.[78] In this dissertation, these laws are called measure-setting laws. On the other hand, it also studies laws that set norms at a macro-level – they set a higher norm and their implementation or compliance with these norms by legislators can be evaluated in legal terms (e.g., constitutional review or periodic review of human rights implementation). It is, however, more difficult to empirically evaluate their impact on health outcomes, as this is mediated through measure-setting laws. These laws are called norm-setting laws. It must be noted that this is not a hard distinction, but it is a rather a heuristic tool to categorize the different ways of functioning of laws in specific public health contexts.

The important role that measure-setting laws take up in health promotion is firmly established in the discourse of public health law, but also in the field of public health more generally. Such measures have often been evaluated by public health scholars, such as epidemiologists and health economists, and many of the measures have also been found to be efficient in promoting good health and preventing NCDs.[79] Therefore, laws that take up this role are also found in guidelines and other policy documents recommending evidence-based strategies to address NCD prevalence.[80] Examples of measure-setting laws include reformulation policies for food and beverage products; front-of-pack labelling informing consumers about the nutritional content of a food product; sugar-sweetened beverage taxes; and marketing restrictions particularly protecting children from the marketing of foods high in saturated fats, free sugars or sodium.[81]

78 An important area of research in this regard is legal epidemiology, the scientific study or deployment of law as a factor in the cause, prevention and distribution of disease and injury, see, for example, S Burris, AC Wagenaar, JW Swanson and others, 'A Framework for Research in Legal Epidemiology' in AC Wagenaar, R Liccardo Pacula and S Burris (eds) *Legal Epidemiology: Theory and Methods* (Oxford: Wiley, 2023) 3, 3-20.

79 See, for example, WHO Best Buys (n 20).

80 G Galea, A Ekberg, Angela Ciobanu and others, 'Quick buys for prevention and control of noncommunicable diseases' (2025) 52 The Lancet Regional Health – Europe 1.

81 WHO Best Buys (n 20). Note that the former two policies are considered 'quick buys', Galea and others (2025) (n 80).

Norm-setting laws also take up an important role in public health. They are sometimes highlighted or reiterated in public health guidelines and measure-setting legislation.[82] Norm-setting laws have been studied widely in the field of health and human rights.[83] This field particularly revolves around the right to health and other relevant rights, and their subsequent interpretations that have helped clarify the scope of rights relevant to public health and the (State) obligations flowing from them.[84] Beyond the right to health and other related rights under international human rights treaties, domestic constitutions, and provisions such as Article 168(1) of the Treaty on the Functioning of the European Union (TFEU) are also categorised as norm-setting laws in this dissertation.[85]

In terms of scope, both laws that intend to address public health concerns and laws that have an incidental impact on public health are included. Burris and others differentiate between three types of public health laws: laws that intentionally promote public health (so-called interventional public health laws); laws that do not appear to have an explicit public health aim but nevertheless can influence public health directly or indirectly (so-called incidental public health laws); and laws that establish the competences, obligations and institutions of public health law (infrastructural laws).[86] The scope of this dissertation does not explicitly exclude one of these categories, and all three are, to different degrees, subject of study in chapters of this dissertation.

Especially incidental public health laws may be missing on many public health (law) scholars' radars and, as such, may remain under-observed or under-evaluated. Bringing attention to these laws thus conceptually aligns with how the social determinants of health emphasize the need for any health policies to be intertwined with wider (social and economic) policies;[87] and is also aligned with a health in all policies approach, which integrates health consid-

82 WHO Framework Convention on Tobacco Control (adopted 21 May 2003, entered into force 27 February 2005) 2302 UNTS 166 (hereinafter FCTC) preamble; Directive 2014/40/EU on the approximation of the laws, regulations and administrative provisions of the Member States concerning the manufacture, presentation and sale of tobacco and related products and regulating Directive 2001/37/EC [2014] OJ L127/1 (hereinafter TPD) recital 8. In the context of oral health, the GOHAP also reiterates the spirit of norm-setting laws and recognizes a fundamental right to the highest attainable standard of health, WHO GOHAP (n 8) para. 15.

83 See, for example, multiple chapters in B Toebes, M Hartlev, A Hendriks and others, *Health and Human Rights: Global and European Perspectives* (Cambridge: Intersentia, 2022) 359-389,

84 See, for example, K Buse, W Aftab, S Akhter and others, 'Time to clarify State obligations and accountability on NCDs with human rights instruments' (2019) 4 BMJ Global Health 1; K Ó Cathaoir, 'Childhood Obesity and the Right to Health' (2016) 19 HHR 249.

85 Treaty on the Functioning of the European Union [2016] OJ L 202/1 (hereinafter TFEU) Art. 168(1).

86 S Burris, AC Wagenaar, J Swanson and others, 'Making the Case for Laws That Improve Health: A Framework for Public Health Law Research' (2010) 88 The Milbank Quarterly 169, 175-6.

87 'Social determinants of health' (*World Health Organization*, 6 May 2025) <https://www.who.int/news-room/fact-sheets/detail/social-determinants-of -health> accessed 31 January 2026.

erations into decisions across all sectors.[88] An important task for lawyers, with knowledge of the relevant legal systems, working in the field of public health is therefore to identify, or map, these laws, and elucidate their (potential) relevance. This is particularly relevant to consider in the context of the measure-setting laws but can also be relevant in the context of norm-setting laws. The aim of this dissertation, in this regard, is not to evaluate how or to what extent these laws impact public health, but rather to explore the landscape and pinpoint which areas of law are appropriate for further research. This is particularly the case in Chapters 4 and 6 of this dissertation. For example, Chapter 6 applies the framework by Burris and others to EU legislation in the context of regulating tobacco, alcohol and food, and identifies, amongst other areas of EU law, the competition provisions under EU law as incidental health laws, emphasising how decisions based on these provisions have been in contrast with public health objectives.

A range of relevant terms is used throughout the present dissertation that need further clarification. They are the terms that refer to the types of legal acts that are discussed throughout the chapters:[89]

- **(The) law** is 'the system of rules of a particular country, group, or area of activity';[90]
- **Law(s)** is 'a rule, usually made by a government, that is used to order the way in which a society behaves';[91]
- **Legislation** is 'a law or set of laws suggested by a government and made official by a parliament';[92]
- **Regulation** is 'an official rule';[93]
- **Rule** is 'an accepted principle or instruction that states the way things are or should be done, and tells you what you are allowed or not allowed to do';[94]

88 See, for example, 'Promoting Health in All Policies and intersectoral action capacities' (*World Health Organization*) <https://www.who.int/activities/promoting-health-in-all-policies-and-intersectoral-action-capacities> accessed 31 January 2026.

89 The definitions listed are from the Cambridge Dictionary. The definitions provided by the Black's Law Dictionary are listed in the footnotes, but the 'generic' definitions are preferred over the specialised legal definitions for the purposes of this dissertation.

90 'Law' (*Cambridge Dictionary*) <https://dictionary.cambridge.org/dictionary/english/law> accessed 31 January 2026. The law 'in its generic sense, is a body of rules of action or conduct prescribed by controlling authority, and having binding legal force', HC Black, *Black's Law Dictionary: Definitions of the Terms and Phrases of American and English Jurisprudence, Ancient and Modern* (1996, 6th edn) 884.

91 'Law' (*Cambridge Dictionary*) <https://dictionary.cambridge.org/dictionary/english/law> accessed 31 January 2026. Law(s) are 'generally contemplates both statutory and case law', Black (1996) (n 90) 884.

92 'Legislation' (*Cambridge Dictionary*) <https://dictionary.cambridge.org/dictionary/english/legislation> accessed 31 January 2026. Legislation is defined as 'laws enacted by lawmaking body', Black (1996) (n 90) 899.

93 'Regulation' (*Cambridge Dictionary*) <https://dictionary.cambridge.org/dictionary/english/regulation> accessed 31 January 2026. Regulation is a 'rule or order having force of law issued by executive authority of government', Black (1996) (n 90) 1286.

94 'Rule' (*Cambridge Dictionary*) <https://dictionary.cambridge.org/dictionary/english/rule> accessed 31 January 2026. A rule is 'an established standard, guide, or regulation', Black (1996) (n 90) 1331.

- **Policy** is 'a set of ideas or a plan of what to do in particular situations that has been agreed to officially by a group of people, a business organization, a government, or a political party'.[95]

2.4 Connecting child oral health, food environments and law

The three themes introduced above are connected throughout this thesis. While all substantive chapters study various areas of law at various levels, child oral health and food environments are studied separately in the chapters, but are connected through the theoretical presumptions presented in this section. This leads to the following division into parts and chapters as indicated in Table 1:

Table 1. The structure of the present dissertation

Part I **Exploring the Child's Right to Health under International Law: Beyond 'Drill and Fill'**
Chapter 2 A Right to Health-Based Approach to Dental Caries: Toward a Comprehensive Control Strategy
Chapter 3 Conceptualizing the Child's Right to Oral Health: A Rights-Based Approach to Dental Caries
Part II **Law as a Determinant of Food Environments: Multi-Level Considerations**
Chapter 4 Multi-Level Laws as a Determinant of (Un)Healthy Food Environments in Europe: Food for Thought
Chapter 5 – A Human Rights-Based Approach to Food Advertising in the Netherlands: Turning Swiss Cheese into a firm Gouda?
Part III **EU Public Health Law: Studying EU Law as a Factor in the Cause and Prevention of NCDs**
Chapter 6 EU Public Health Law in the Context of NCDs: A Tough Nut to Crack

The remainder of this introduction expands on the research design, and methods and methodological considerations adopted in this dissertation.

3. RESEARCH DESIGN

3.1 Research aims, approach and limitations

This dissertation paints a multidimensional picture of the role of law in preventing oral NCDs. From a distance, it gives a good idea of how laws can contribute to the prevention of

95 'Policy' (*Cambridge Dictionary*) <https://dictionary.cambridge.org/dictionary/english/policy> accessed 31 January 2026. Policy is defined as 'the general principles by which a government is guided in its management of public affairs, or the legislature in its measures', Black (1996) (n 90) 1157.

oral diseases and the promotion of good child oral health. It paints this picture by adopting various angles, and thereby offers multiple approaches that together highlight law's relevance in preventing oral NCDs.

Table 2. The multidimensional picture painted in this dissertation. The table highlights the breadth of law, as well as the breadth of substantive matters considered

Relevant chapter of this dissertation	Thematic focus	
	Law	Substantive matter
Chapter 2 A Right to Health-Based Approach to Dental Caries: Toward a Comprehensive Control Strategy	International human rights law, particularly the right to health under the CRC and ICESCR	Dental caries
Chapter 3 Conceptualizing the Child's Right to Oral Health: A Rights-Based Approach to Dental Caries	International human rights law, particularly relevant rights in the context of oral health under the CRC and ICESCR	Poor child oral health, particularly dental caries in children
Chapter 4 Multi-Level Laws as a Determinant of (Un)Healthy Food Environments in Europe: Food for Thought	Law in general, including different areas of law under public international law, regional law (including EU law and the ECHR), domestic law and local law	Food environments
Chapter 5 – A Human Rights-Based Approach to Food Advertising in the Netherlands: Turning Swiss Cheese into a firm Gouda?	Domestic regulation of food advertising in the Netherlands; and international human rights law, particularly relevant rights under the ICESCR and CRC in the context of food advertising	Food advertising as a pillar of food environments
Chapter 6 EU Public Health Law in the Context of NCDs: A Tough Nut to Crack	EU law (including primary and secondary law)	NCD risk factors (limited to tobacco, alcohol and unhealthy food)

There are three important points to consider when it comes to the methodological decisions and structuring of this thesis. *First*, the present dissertation seeks for breadth, rather than depth. As indicated above, the dissertation rather sets the foundations to bridge multiple disciplines: it does not only transcend multiple scientific disciplines (or sub-disciplines), but it also transcends boundaries within the legal discipline. Given the limited number of existing studies in the context of law, child oral health and food environments, such a comprehensive approach can serve as a fundament to build further action and research on these themes and highlights the (academic and societal) relevance of the interconnection between these themes. Although the scope has been delineated (i.e., only dental caries and no other oral diseases prevalent amongst children; only dietary risk factors of dental caries, particularly sugars, are at the core of this thesis, whilst other risk factors, including fluoride exposure are not examined further; etc.), the aforementioned aim still seeks for breadth, rather than depth.

This also has limitary implications. For example, rather than exhaustively identifying the relevant rules of, for instance, international economic law that impact food environments and empirically analysing their impacts, Chapter 4 of this dissertation presents a broad and non-exhaustive overview of laws at multiple levels that are likely to contribute to the shapes of food environments. The aim of Chapter 4, as an example, is rather to set the stage for future studies than to exhaustively evaluate a defined area of law's impact on food environments. Similarly, some relevant overarching angles are not exhaustively considered. For example, although the social and commercial determinants of health are important and connect well to the topic of this dissertation,[96] there is no chapter explicitly discussing them. Additionally, although oral NCDs share important risk factors with other NCDs, the common risk factor approach is mentioned, but not discussed further in this dissertation.[97]

As indicated in Section 2.1 above, the dissertation is concerned with the prevention of poor child oral health, particularly of dental caries among children – the most prevalent disease in this age group. In terms of the tools that can promote the prevention of oral NCDs, the dissertation particularly focuses on dietary (risk) factors, particularly the consumption of sugars, that can be addressed by laws, through, for example, fiscal measures, measures informing consumers of sugars content in products and measures limiting such products' availability. It is important to also note that the regulation of sugars is not taken alone in this dissertation, but that the articles rather focus on addressing unhealthy diets as a risk factor of NCDs, including dental caries. However, even (unhealthy) diets are not the only risk factor discussed – where relevant some inspiration is also drawn from the regulation of tobacco and alcohol. In this vein, tobacco and alcohol consumption, which have also been

96 See, among other sources, WHO GOHAP (n 8) para. 6; M Hopcraft, A Gupta, A Singh and J Lacy-Nichols, 'Oral Health Meets Commercial Determinants: An Opportunity to Bridge Individual and Structural Approaches' (2025) 70 Aust Dent J 202; Y Lai, Y Li, X Liu and others, 'The impact of social and commercial determinants on the unequal increase of oral disorder disease burdens across global, regional and national contexts' (2025) 25 BMC Oral Health 1; Watt and others (2019) (n 14).

97 In the oral health context, see, for example, WHO GOHAP (n 8) para. 1; Benzian and others (2023) (n 17); RG Watt and A Sheiham, 'Integrating the common risk factor approach into a social determinants framework' (2012) 40 Community Dent Oral Epidemiol 289; A Sheiham and RG Watt, 'The common risk factor approach: a rational basis for promoting oral health' (2000) 28 Community Dent Oral Epidemiol 399.

identified as risk factors to several oral NCDs,[98] are discussed where relevant in light of how their regulation is exemplary for the context of dental caries. This should be interpreted as a methodological decision to limit the scope of this project and it does not mean these topics are not deemed relevant.

Second, it must be noted that this dissertation does not aim to *evaluate* the effectiveness of law in promoting the maintenance of child oral health or the prevention of dental caries. It rather aims to put forward that the law must be considered in promotion and prevention strategies and directs readers to relevant areas of law that have or are likely to have an impact on child oral health. Based on the findings of this dissertation, a next step could be to evaluate the impact or effectiveness of laws that are highlighted in the present dissertation.

Third, the present dissertation aims to highlight the need for collaboration transcending disciplines, but also transcending legal orders and areas within the legal discipline: the plurality of legal disciplines on which this dissertation touches indicates the broad relevance of legal expertise in public health research. It is also for this reason that the dissertation consists of a combination of articles that are intended for publication or have been published in scientific journals.[99] First, the choice for writing a dissertation based on articles allows for collaboration with experts from different fields and disciplines through co-authorship, which ensures the adequate incorporation of and elaboration on non-legal information. Furthermore, it similarly allows for the dissemination of findings into different academic fields, thereby creating the opportunity for the findings to be incorporated in further research. Finally, the chapters combined in this thesis are not written for a single audience; on the one hand, some of the chapters analyse the law in more depth and are written for lawyers working in various legal orders and areas of law (especially Chapters 3, 5 and 6), whilst others are written explicitly for non-lawyers and introduce legal topics in a simple manner (Chapter 2). On the other

98 On tobacco consumption, see, for example, *Personal habits and indoor combustions: Volume 100E – A review of Human Carcinogens* (Lyon: IARC Working Group on the Evaluation of Carcinogenic Risks to Humans, 2012) 66-68; FRM Leite, GG Nascimento, F Scheutz and R López, 'Effect of Smoking on Periodontitis: A Systematic Review and Meta-regression' (2018) 54 American Journal of Preventive Medicine 831; MFA Quadri, AM Kamel, M Nayeem and others, 'Smokeless tobacco and periodontitis: A systematic review with meta-analysis' (2024) 59 Journal of Periodontal Research 1062. On alcohol consumption, see, for example, *Personal habits and indoor combustions: Volume 100E – A review of Human Carcinogens* (Lyon: IARC Working Group on the Evaluation of Carcinogenic Risks to Humans, 2012) 377-379; GS George, A Patil, R Moirangthem and others, 'Association of alcohol and different types of alcoholic beverages on the risk of buccal mucosa cancer in Indian men: a multicentre case-control study' (2025) 10 BMJ Global Health 1; SE Baumeister, J Schóssow, GG Nascimento and others, 'Alcohol Consumption, Risk of Periodontitis and Change of Periodontal Parameters in a Population-Based Cohort Study' (2025) 52 Journal of Clinical Periodontology 1024; L Machado Oliveira, K da Silva Pilecco, C Anghinoni de Oliveira and others, 'Alcohol Intake Influences the Occurrence and Progression of Periodontitis Differently According to Sex and Country Sociodemographic Development: A Two-Stage Systematic Review (2022) 57 Alcohol and Alcoholism 566; SJ Pulikkotil, S Nath, Muthukumaraswamy and others, 'Alcohol consumption is associated with periodontitis. A systematic review and meta-analysis of observational studies' (2020) 37 Community Dent Health 12.

99 Note that the writing of manuscripts persists in the legal tradition, see, for example, M Bruijn, *The alternative war on drugs: drug evictions, cannabis regulation and the legal consequences of adapting to the limitations of criminal law in the field of drug control* (PhD thesis: University of Groningen, 2021), preface.

hand, other chapters engage more with non-legal concepts and bring them to the attention of lawyers (Chapters 3 and 4).

3.2 Research questions

The main research question this dissertation answers is: *how can law contribute to the protection and improvement of the maintenance of child oral health, particularly the prevention of dental caries?* The phrasing of this question elucidates that the aim is not to identify all possible ways law can contribute to the protection and improvement of the maintenance of child oral health, but that it rather aims to paint a picture of how the law conceptually contributes to this objective. Additionally, as indicated above by the (theoretical) framework connecting the three themes of this dissertation, it is also not limited to laws that directly addresses child oral health, but sometimes considers other risk factors of NCDs where it is relevant for answering one of the sub-questions.

It must be noted that the sub-questions are not necessarily separately or explicitly addressed in the chapters of this dissertation. Rather, as the chapters have been published or are intended for publication in academic journals to reach scholars and practitioners in the relevant disciplines (including public health, (public health) dentistry and law), the sub-questions are explicitly answered based on the findings of several chapters in the concluding chapter of this dissertation. The answer to the main research question is, in turn, built on the answers to the sub-questions and is thus also highlighted in the concluding chapter.

To answer the main research question, several sub-questions have been identified. From the outset, it must be clear *what the behavioural (risk) factors of poor child oral health, particularly the experience of dental caries, are*. This sets the foundation for the present dissertation and is limited to behavioural factors that can be addressed by law – genetic and biological factors are not considered. The answer to this question is composed in Chapters 2 and (most concretely addressed in Chapter) 3. It can then be assessed *how international human rights law relates to the prevention of dental caries in children, and how it informs (domestic) regulatory laws and policies*. To identify the content of international human rights law, the relevant provisions of the Convention on the Rights of the Child (CRC) and the ICESCR,[100] as well as authoritative interpretations of the relevant rights guaranteed under these treaties are considered. The second part of the question does not aim to provide an answer to *how* international human rights law influence laws and policies in States Parties to these treaties in practice, but rather *what* can substantively be interpreted from the relevant provisions and can as such be advocated to or adopted by States to ensure the right to oral health and related rights. The answer to this question is also constructed in Chapters 2 and 3.

100 CRC (n 52); ICESCR (n 26).

Subsequently, the thesis proceeds to the 'law in action' and considers *how law (in its general sense) addresses or determines (healthy) food environments, particularly for their impact on dietary choices including sugars consumption as a driver of dental caries*. This is addressed in two different manners in Chapters 4 (giving a broad, multi-level overview) and 5 (illustrating with a concrete domestic example). Focusing on the EU-context, it is assessed *how EU primary and secondary law can impact the incidence of NCDs, including the incidence of dental caries (or the prevention thereof)*. This question is addressed in Chapter 6. Following the phrasing of the latter two questions, their scopes are not limited to law or legislation that intentionally impacts the incidence of dental caries and other NCDs, but also consider law or legislation that can unintentionally contribute to the incidence of dental caries and other NCDs.

Table 3. Location of research (sub-)questions in this dissertation

Type of question	Concrete question	Location within the dissertation
Main research question	How can law contribute to the protection and improvement of the maintenance of child oral health, particularly the prevention of dental caries?	Throughout the dissertation, answered in the conclusion
Sub-question 1	What are the behavioural (risk) factors of poor child oral health, particularly the experience of dental caries?	Chapters 2 and 3 (Part II) Explicitly addressed in Chapter 3, implicitly considered in Chapter 2 (Part I)
Sub-question 2	How does international human rights law relate to the prevention of dental caries in children, and how does it inform regulatory (domestic) laws and policies?	Chapters 2 and 3 (Part I) Chapter 2 is written for a non-legal audience and is written in a comprehensible style, while Chapter 3 is written for a legal audience and presents a more profound legal analysis
Sub-question 3	How does law address or determine (healthy) food environments, particularly for their impact on dietary choices including sugars consumption as a driver of dental caries?	Chapters 4 and 5 (Part II) Chapter 4 gives a comprehensive overview considering all pillars of food environments and multiple levels of law, whilst Chapter 5 zooms in on the Dutch regulation of food advertising in light of international human rights law
Sub-question 4	How can primary and secondary EU law impact the incidence of NCDs, including the incidence of dental caries (or the prevention thereof)?	Chapter 6 (Part III)

4. METHODS AND METHODOLOGICAL CONSIDERATIONS

Although methods and methodologies have traditionally been less explicit in legal research,[101] it is increasingly common to discuss them more extensively in legal dissertations.[102] Particularly in light of the dissertation's aim to be of interest to and to be taken into consideration by researchers in multiple disciplines, the present section first considers questions of 'disciplinarity' and subsequently addresses legal methods and methodologies adopted. It elaborates on the methods adopted per chapter, given the differing approaches and focuses adopted in the chapters.

4.1 Questions of 'disciplinarity'

In collaborating amongst different disciplines, different intensities of collaboration and integration amongst disciplines can be distinguished.[103] At the lowest level of intensity is *multidisciplinary* research; in such research, researchers of different disciplines study a shared topic of interest through their own disciplinary lens, disseminate their results to respective outlets, but come together to tell a synthesises story of the individual results.[104] In *interdisciplinary* research, researchers from different disciplines inform each other's perspectives and compare results through a transfer of knowledge across disciplines, while staying grounded in their own disciplines. This may eventually lead to the creation of a new discipline.[105] At the highest level of intensity, *transdisciplinary* research requires researchers to transcend the boundaries of their own discipline and blend different perspectives to understand complex questions and problems.[106]

Public health research could be considered interdisciplinary by its very nature, as 'any topic related to population health – nutrition, environmental issues, addictions and so on – ne-

101 S Taekema, 'Theoretical and Normative Frameworks for Legal Research: Putting Theory into Practice' [2018] Law and Methods 1, 1.

102 For legal methodology sections in PhD theses that recognise this divide and/or elaborate on methodology, see, for example, M Hesselman, *Human Rights and access to modern energy services* (PhD thesis: University of Groningen, 2023) 13-46; Bruijn (2021) (n 99) 35-41; J Lindeboom, *Essays on Autonomy, Legality and Pluralism in European law* (PhD thesis: University of Groningen, 2020) 20-38.

103 BCK Choi and AWP Pak, 'Multidisciplinarity, interdisciplinarity and transdisciplinarity in health research, services, education and policy: 1. Definitions, objectives, and evidence of effectiveness' (2006) 29 Clin Invest Med 351, 359.

104 Note that the precise topic of this source is not connected to the present dissertation, but still provides clear explanation of multi-, inter- and transdisciplinary research, DL Schmalz, MC Janke and LL Payne, 'Multi-, inter-, and transdisciplinary research: leisure studies past, present and future' (2019) 50 Journal of Leisure Research 389, 389-391.

105 Note that the precise topic of this source is not connected to the present dissertation, but still provides clear explanation of multi-, inter- and transdisciplinary research, Schmalz and others (2019) (n 104) 389-391.

106 Note that the precise topic of this source is not connected to the present dissertation, but still provides clear explanation of multi-, inter- and transdisciplinary research, Schmalz and others (2019) (n 104) 389-391.

cessitates considering individuals within their lived contexts'.[107] If this line of argument is followed, the present dissertation is, as such, a product of an interdisciplinary field where, per definition, perspectives of different disciplines are needed. Choi and Pak, however, propose that 'when the exact nature of a multiple disciplinary effort is not known […] the general term "multiple disciplinary" [should be] used instead'.[108] It is exactly this advice that is followed here. Without referring to the three popular terms introduced above, this sub-section describes how the present dissertation, in its presumptions, aims and chapters, applies multiple disciplinary perspectives.

In the present dissertation, which holds three themes at its core, at least *knowledge* from three associated disciplines is required. The subject or issue studied, how law can promote good child oral health with a focus on dietary patterns (through food environments), requires insights from multiple disciplines: it requires an understanding of how increased caries risk develops; how law has an impact on dietary patterns; and the content of relevant laws. The presumptions on which this dissertation is built are also not only legal, but largely originate from the field of public health. By studying a subject or issue that transcends disciplinary boundaries, the aims also go beyond the legal realm – the research is not only conducted to better understand the law, but also to understand how law and legal insights can contribute to addressing a specific public health issue.

The methods of the research conducted in this dissertation remain legal in nature. This dissertation studies the law but incorporates concepts and insights from the fields of public health and dentistry in the legal analysis.[109] For this purpose, collaboration with experts in relevant other disciplines than law, particularly in the fields of dentistry and public health, has been sought for to ensure the quality and adequacy of the incorporated knowledge. Finally, the research findings are not only intended for a legal audience. The dissertation thereby remains within the realm of public health law and aims to '[translate] legal expertise into actionable knowledge to guide both lawyers and non-lawyers in policy development, implementation and advocacy'.[110]

107 J Kivits, L Ricci and L Minary, 'Interdisciplinary research in public health: the 'why' and the 'how'' (2019) 73 J Epidemiol Community Health 1061. Note that research in the area of public health, also depending on how one defines the boundaries of the field, can still be multi-disciplinary and interdisciplinary, EW Ford, 'Public Health Core Disciplines' in MJ Stahl (ed), *Encyclopedia of Health Care Management* (SAGE, 2004) < https://sk.sagepub.com/ency/edvol/healthcaremanagement/toc> accessed 18 March 2026; T Gagné, J Lapalme and DV McQueen, 'Multidisciplinarity in health promotion: a bibliometric analysis of current research' (2018) 33 Health Promotion International 610.

108 Also see the definitions proposed in 2006 by Choi and Pak, Choi and Pack (2006) (n 103) 359.

109 On the different levels of integration, please consult S Taekema and W van der Burg, 'Introduction: The Incorporation Problem in Interdisciplinary Legal Research' (2015) 2 ELR 39.

110 S Burris, M Ashe, D Levin and others, 'A Transdisciplinary Approach to Public Health Law: The Emerging Practice of Legal Epidemiology' (2016) 37 Annual Review of Public Health 135, 136.

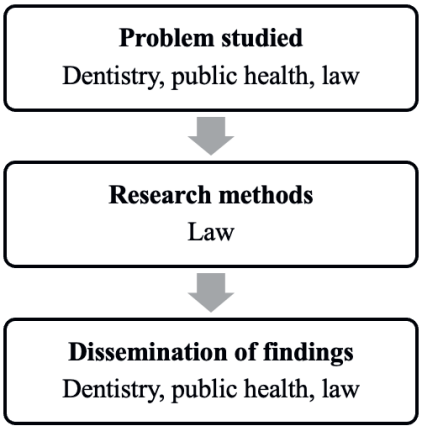

Figure 4. Different levels of multiple disciplinarity in stages of this dissertation

4.2 Questions of legal methods and methodologies

Given that the research conducted is of a legal nature, only legal methods have been adopted for this dissertation; methods of other disciplines have not been mixed or adopted. Zooming in on the legal research conducted, it must be highlighted that this dissertation is rooted in legal positivism; the validity of laws and legislation comes from social facts, not from, for example, their moral content, i.e. their connection to alignment with morality.[111] Within this tradition, a doctrinal research method is common, and this is also largely the methodology adopted in the chapters of this dissertation. This method is 'concerned with the study of legal sources as identified by the rule of recognition of a given legal system';[112] it is 'academic legal research that focuses on positive law'.[113] For the pursuit of the aims of this dissertation and to answer the research questions, some parts of this thesis furthermore required the adoption of an external normative framework and the incorporation of empirical facts from non-legal disciplines.[114]

The doctrinal method is supplemented with an engaged approach;[115] the author sought engagement with the broader academic community, as well as non-academic professionals working in the contexts of the relevant themes of this dissertation. As mentioned at the begin-

111 T Spaak and P Mindus, 'Introduction' in T Spaak and P Mindus (eds), *The Cambridge Companion to Legal Positivism* (Cambridge: CUP, 2021) 1, 17-8.

112 S Theil, 'Carefully Tailored: Doctrinal Methods and Empirical Contributions' (2025) 45 Oxford Journal of Legal Studies 1047, 1048. Note that unlike the paper referred to, this dissertation rejects the exclusive focus on legal sources as indicated, see S Theil, 'Carefully Tailored: Doctrinal Methods and Empirical Contributions' (2025) 45 Oxford Journal of Legal Studies 1047, 1054.

113 Taekema (2018) (n 101) 2.

114 T Hutchinson, 'Empirical Facts: A Rationale for Expanding Lawyers' Methodological Expertise' (2013) 3 Recht en Methode in onderzoek en onderwijs 53, 53.

115 DW Patterson, *The climate crisis and the right to health: mobilising international human rights law for urgent climate action* (PhD thesis: University of Groningen, 2026).

ning of this introduction, the present PhD project is part of the European Commission's CDP programme and conducted at the JRC, which positioned the author at the science-policy interface. As a result, some of the decisions made and the analyses conducted in this dissertation are informed by daily practice, meetings and other (academic) events attended by the author. Similarly, over the course of this research, the author has sought to test preliminary findings within a practical setting and expose such findings to external scrutiny. For example, exposing early findings on the right to oral health to supervisors (and eventually co-authors) and academic communities at international conferences helped the author understand the need for a simple introduction to the right to health and dental caries for a non-legal audience (Chapter 2). Ultimately, multiple rounds of (extensive) peer review feedback have led to the development and current shape, including, for example, a glossary, of Chapter 2. Furthermore, the selection of exemplary laws in Chapters 4 and 6 have been largely informed by interactions with other scholars (including those in the areas of law, and public health), actors involved in policymaking and information shared by civil society organizations.

As this dissertation combines five articles that exist separately from each other, have different target audiences and have also been written for their individual relevance, the parts of the present dissertation are divided into themes discussed. As presented in Table 1, it is divided into three parts focusing on: I) the child's right to oral health under international human rights law; II) the role of law in determining the shape of food environments; and III) EU law as public health law. It must be noted that, as indicated in figure 4 below, the research questions zoom in and out in terms of the type of law and the issue considered. For example, whereas Parts I and III each study a defined area of law, Part II considers law in general. In terms of issues studied, Part I focuses on child oral health (dental caries). Part II zooms out and studies law in the context of food environments. Part III zooms out even more, and considers the broad context of tobacco, alcohol and (unhealthy) food. To increase coherence and provide guidance to the reader, prior to the start of each part, a short interface introduces the theme of the part, the chapters included in it, as well as the research question the part seeks to answer. The present sub-section introduces the topics of each part and connects the methods adopted per part or chapter. Table 4 provides an overview of the parts and chapters of this dissertation, with the associated research questions, demarcations of the scope, methods and target audiences.

Table 4. Comprehensive overview of sub-questions, demarcations, methods and target audiences per chapter

Chapter	Sub-question addressed	Demarcation of scope		Method	Target audience
		Law	Theme		
Part I **Exploring the child's right to oral health under international law: beyond 'drill and fill'**					
Chapter 2 A Right to Health-Based Approach to Dental Caries: Toward a Comprehensive Control Strategy	What are the behavioural (risk) factors of poor child oral health, particularly the experience of dental caries? How does international human rights law relate to the prevention of dental caries in children, and how does it inform regulatory (domestic) laws and policies?	International human rights law (ICESCR and CRC)	Dental caries	Doctrinal human rights law research incorporating non-legal facts (i.e., the aetiology of dental caries)	Non-lawyers, particularly those engaged in (public health) dentistry
Chapter 3 Conceptualizing the Child's Right to Oral Health: A Rights-Based Approach to Dental Caries	What are the behavioural (risk) factors of poor child oral health, particularly the experience of dental caries? How does international human rights law relate to the prevention of dental caries in children, and how does it inform regulatory (domestic) laws and policies?	International human rights law (ICESCR and CRC)	Poor child oral health, particularly dental caries in children	Doctrinal human rights law research incorporating non-legal facts (i.e., the aetiology of dental caries)	Lawyers working in the context of health and human rights law
Part II **Law as a determinant of food environments: multi-level considerations**					
Chapter 4 Multi-Level Laws as a Determinant of (Un)Healthy Food Environments in Europe: Food for Thought	How does law address or determine (healthy) food environments, particularly for their impact on dietary choices including sugars consumption as a driver of dental caries?	Law in general, ranging from international, regional (EU and Council of Europe), domestic and local law and regulation, presented within a heuristic model differentiating between measure-setting and norm-setting laws	Food environments	Doctrinal research incorporating non-legal facts, supplemented with an engaged approach	Global health lawyers or public health lawyers

Table 4. Comprehensive overview of sub-questions, demarcations, methods and target audiences per chapter (*continued*)

Chapter	Sub-question addressed	Demarcation of scope		Method	Target audience
Chapter 5 A Human Rights-Based Approach to Food Advertising in the Netherlands: Turning Swiss Cheese into a Firm Gouda?	How does law address or determine (healthy) food environments, particularly for their impact on dietary choices including sugars consumption as a driver of dental caries?	Dutch (domestic) regulation of food advertising within a constructed framework of the rights to health and food under the ICESCR and CRC in the context of food advertising	Food advertising as a pillar of food environments	Doctrinal human rights law research incorporating non-legal facts, critically analysing regulation against an external (human rights) framework	Lawyers working in the context of human rights law, and lawyers working in the context of human rights law implementation at the domestic level
Part III **EU public health law: studying EU law as a factor in the cause and prevention of NCDs**					
Chapter 6 EU Public Health Law in the Context of NCDs: A Tough Nut to Crack	How can primary and secondary law impact the incidence of NCDs, including the incidence of dental caries (or the prevention thereof)?	EU primary and secondary law, within Burris and others' framework of public health law	NCD risk factors (limited to tobacco, alcohol, and unhealthy food products)	Doctrinal EU law research, supplemented with an engaged approach	EU (health) lawyers

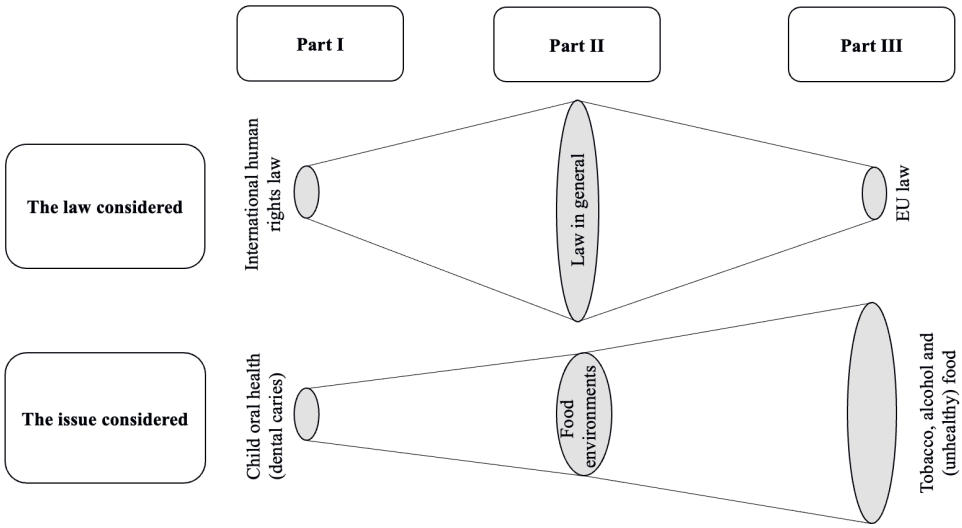

Figure 5. The different broad and narrow focuses per Part of this dissertation

Part I – Exploring the child's right to oral health under international law: beyond 'drill and fill'.

The first part of the present dissertation is titled 'Exploring the child's right to oral health under international law: beyond 'drill and fill''. This part consists of two articles that are similar in content but are written for distinct audiences. Chapter 2, the first chapter of this part, is titled 'A Right to Health-Based Approach to Dental Caries: Toward a Comprehensive Control Strategy' and has been published as a co-authored paper with David J. Manton, Jan Wollgast and Brigit Toebes in Caries Research,[116] a journal entirely dedicated to dental caries and related dental diseases. The title of Chapter 3 is 'Conceptualizing the Child's Right to Oral Health: A Rights-Based Approach to Dental Caries'. This chapter has been previously published as an article in Health and Human Rights, a journal that is oriented towards human rights practitioners and academics.[117] Accordingly, Chapter 2 is a simplified, introductory version of Chapter 3 and is broader in scope: it focuses on a right to health-based approach to dental caries more generally. Chapter 3 provides an in-depth analysis of the child's right to oral health and is, as such, limited to children's rights. The answers to sub-questions 1 and 2 central to this dissertation are deducted from Part I. The aim of the chapters of Part I, and the published articles, is to inform scholars in both fields of human rights law and dentistry about the right to oral health.

116 SD Mollet, DJ Manton, J Wollgast and B Toebes, 'A Right to Health-Based Approach to Dental Caries: Towards a Comprehensive Control Strategy' (2024) 58 Caries Res 444.

117 Mollet (2025) (n 31); About HHR' (*Health and Human Rights*) < https://www.hhrjournal.org/about-hhr/about-hhr/> accessed 25 January 2026.

Methodological considerations for Chapters 2 and 3

The legal positivist grounding and the adopted doctrinal approach in the chapters addressing human rights law (particularly Chapters 2, 3, but also Chapter 6, and Chapter 5 to a lesser extent) has some implications - a natural law approach is not adopted here and, as such, insights from such a grounding are not reflected in this dissertation. In concrete terms, this means that the rights of individuals, for example, the right to oral health, and the obligations for States Parties to human rights law treaties are considered as a result of States being a Party to treaties, rather than the inherent right of individuals for reasons of morality or human rights as a higher form of law.[118] Accordingly, Chapters 2 and 3 study, or interpret, the treaty provisions as a tool that can, for example, inform the adoption of laws and policies at the domestic (and other non-international levels) setting, provide an evaluative system and serve as a system for accountability.[119]

Chapter 3 aims to identify the content of the child's right to oral health.[120] In doing so, it adopts a doctrinal methodology. It must be noted that the right to oral health is not explicitly found in human rights treaties. The chapter aims to identify this right through the interpretation of relevant human rights provision, i.e. it aims to identify a right that is implicit to existing human rights treaties. In this context, Coomans, Grünfeld and Kamminga highlight the need for researchers in the field of human rights law to distinguish between *lex lata* (the law as it is) and *lex ferenda* (the law as it should be), to prevent the creation of new norms or interpretations without demonstrating sufficient support in legal practice.[121] They criticize the practice of inventing new 'right to'-s, as it is 'often used to blur the lines between *lex lata* [the law as it is] and *lex ferenda* [the law as it should be]'.[122] In this exercise, namely interpreting the relevant provisions to advocate for a novel 'right to', a considerable role is given to the interpretative practice of treaty bodies endowed with the task of interpreting the rights enshrined in the respective treaties. Hesselman in fact flags that in human rights law, besides legally binding treaty text, almost all relevant subsequent interpretative practices are non-binding in nature.[123] She raises an important methodological question in this regard, 'how can findings about legally binding rights and obligations be ever made in respect of very open-ended treaty norms, through the analysis of (a series of) non-binding statements?'.[124]

118 For critical notes on limiting human rights law research to legal positivism, please consult S Hall, 'The Persistent Spectre: Natural Law, International Order and the Limits of Legal Positivism' (2001) EJIL 269.

119 D Patterson, K Buse, R Magnusson and B Toebes, 'Identifying a human rights-based approach to obesity for States and civil society' (2018) 20 Obes Rev. 45.

120 Chapter 2 is an introductory chapter adapted to a non-legal audience and largely uses the research conducted for Chapter 3. Their methodologies are therefore not discussed separately.

121 F Coomans, F Grünfeld and M Kamminga, 'Methods of Human Rights Research: A Primer' (2010) 32 Human Rights Quarterly 179, 185.

122 Coomans and others (2010) (n 121); Hesselman (n 102) 16.

123 Hesselman (2023) (n 102) 16; S Egan, 'The Doctrinal Approach in International Human Rights Law Scholarship' in L McConnell and R Smith (eds), *Research Methods in Human Rights* (London: Routledge 2018) 32.

124 Hesselman (2023) (n 102) 16.

The legal value of the non-binding work of the UN treaty bodies may be criticized by some, particularly given the fact that their non-binding interpretations are often replicated in further publications by the same or connected bodies that as such make them self-affirming.[125] The chapters of this dissertation nevertheless award a significant role to their publications in interpreting the right to oral health and congruent State obligations, for two reasons.[126] First, in the present context, of (the right to) child oral health and food environments, there is limited guidance in the shape of legally binding treaty provisions. Beyond human rights treaties, there are no other treaties directly addressing these issues – unlike, for instance, the area of tobacco control, where a global treaty, the WHO Framework Convention on Tobacco Control (FCTC), exists.[127] Additionally, it is submitted that the right to oral health itself is not a novel human right created for a developing societal need and does not originate from a combination of rights. In fact, this right has always existed as an integral component of the right to the highest attainable standard of physical and mental health: oral health itself is an integral component of general health.[128] The obligations congruent to the identified rights, as well as poor (child) oral health's impact on the fulfilment of other rights, are thus largely interpreted through the non-binding interpretations of the relevant treaty bodies. The chapter therefore commences with a brief clarification on the legal value given to each source (from the Treaties' text to Reports of Special Rapporteurs, and WHO reports and scientific literature).

Part II - Law as a determinant of food environments: multi-level considerations

The second part of the present dissertation is titled 'Law as a determinant of food environments: multi-level considerations' and consists of two chapters. Chapter 4 is titled 'Multi-Level Laws as a Determinant of (Un)Healthy Food Environments in Europe: Food for Thought' and signals relevant laws, taking into consideration multiple legal orders and areas of law, that contribute to the shape of food environments in Europe. It has been written in collaboration with João Costa Leite and Jan Wollgast as an article that is intended to be published in a journal targeting a (global) health law audience. Chapter 5 presents a case study on the domestic regulation of food advertising. This chapter is titled 'A Human Rights-Based Approach to Food Advertising in the Netherlands: Turning Swiss Cheese into a Firm Gouda?'. It critically assesses the current state of food advertising regulations in the Netherlands against a framework established based on international human rights to which

125 Hesselman (2023) (n 102) 25. See, for example, the references to General Comments and reports by other Special Rapporteurs in *Report of the Special Rapporteur on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health, Tlaleng Mofokeng* (United Nations General Assembly, 2023) UN Doc. A/78/185 (hereinafter Special Rapporteur Report (Tlaleng Mofokeng, 2023), paras. 2, 8-9, 11-15 and 17.

126 For an extensive discussion on interpreting human rights law, please consult Hesselman (2023) (n 102) 13-46.

127 FCTC (n 82).

128 Note that these are empirical facts incorporated from a non-legal regime, which also play an important role in the interpretation of the right to oral health, WHO GOHAP (n 8) para. 2.

the Dutch State has committed itself. This chapter has been written with the intention of publication in a human rights law journal. The chapters of Part II, and the corresponding articles to be published, aim to inform a legal audience about the relevance and the potential their expertise has in promoting public health.

Methodological considerations for Chapter 4

Chapter 4 builds on existing conceptualizations of food environments by introducing law as a determinant of the shape of food environments: while well-established frameworks recognize factors that determine food environments and (inherently and/or explicitly) recognize that law and policy are important in shaping food environments, law as a determining factor of food environments' shape has not been comprehensively studied thus far. To highlight the broad relevance of law and the complex interplay of law, the Chapter identifies multiple relevant laws ranging from the international- to the local level. The Chapter's scope is restricted to laws applicable in EU Member States, but that does not limit its relevance to that context.

This broad relevance particularly arises from the Chapter's exploratory nature and theoretical aims. The article first introduces the concept of food environments through four well-established frameworks on food environments.[129] Accordingly, the theoretical basis or starting point of the legal research inherently incorporates non-legal facts.[130] Subsequently, an exploratory mapping of laws at multiple levels is presented.[131] The laws that are described have been identified in two ways. Sources studying a concrete connection between any (area of) law(s) and (certain components of) food environments have been identified in both the public health- and legal disciplines. The literature research has been complemented with the engaged approach facilitated by the unique position of this PhD project. Particularly the interaction and collaboration with co-authors, with experience in the EU policy cycle in this context, as well as interactions with other practitioners and scholars have played an important role in the selection of legislation discussed. The laws discussed in the chapter were selected for their relevance, but also for their illustrative contributions.

The research conducted for Chapter 4 is also from which the measure-setting and norm-setting distinction arises. In identifying sources connecting law to (components of) food

129 The four frameworks are HLPE (n 53); Hawkes C, Jewell J and Allen K, 'A food policy package for healthy diets and the prevention of obesity and diet-related non-communicable diseases: the NOURISHING framework' (2013) 14 Obes Rev. 159; 'NOURISHING policy framework' (*World Cancer Research Fund International*) <https://www.wcrf.org/research-policy/policy/nutrition-policy/nourishing-framework/> accessed 31 January 2026; Swinburn and others (2013) (n 63); Downs and others (2020) (n 64).

130 For the relevance of such an approach, see, for example, Hutchinson (2013) (n 114).

131 An actual mapping study as explained by Burris and colleagues builds on comparative legal research practices and aims to '[a]nalyze the state of the law or the legal terrain currently or over time and the application of laws surrounding a particular public health topic'. This type of study requires scientific rigour: they must be carried out following transparent and replicable methods defined in protocols to systematically collect and analyse data Burris and others (2023) (n 78)) 3, 10. Chapter 4 does not aim to be exhaustive, but rather aims to provide a non-exhaustive, exploratory mapping.

environments, it stood out that contributions consider the (potential or optimal) deployment of law or (provide a framework to) evaluate such deployment on the one hand,[132] but also trace norms that inform how (healthier) food environments should be shaped on the other hand.[133] For heuristic purposes, the article therefore differentiates between these two roles laws can have in shaping food environments.

The objectives of the chapter are of a theoretical nature, and the chapter adopts a descriptive approach, i.e. it *maps* the different levels and areas of law at play, rather than *analysing* the complex interplay among them. Furthermore, it does not aim to identify conflicts of laws. Therefore, questions of regime interaction (i.e. the concept, of which the fragmentation and diversification of international law lies at its basis, that comprehends how norms and institutions of diverse regimes interact as a result of the fragmentation of international law)[134] and systemic integration (i.e. an interpretative principle, given expression in Article 31(3)(c) of the Vienna Convention on the Law of Treaties,[135] that by some is considered *the* answer to complications arising from the fragmentation of, particularly, public international law)[136] are not addressed.

Methodological considerations for Chapter 5

Chapter 5 identifies the Dutch rules on food advertising and critically analyses them in light of the rights to health and food under the CRC and the ICESCR.[137] This thus means that the chapter makes use of an external *legal* normative framework. Taekema notes that many legal research questions evaluate a 'legal state of affairs' and therefore need a normative framework that provides standards for evaluation.[138] She makes a (heuristic) distinction between internal and external frameworks. Internal frameworks are 'standards that are part of the law, its principles and values', while external frameworks are 'theories that provide such standards'.[139] Although the human rights standards are part of 'the law' in general terms, they are not indicated as an objective of the Dutch rules on food advertising.[140]

132 See, for example, Swinburn and others (2013) (n 63).

133 See, for example, A Constantin, OA Cabrera, B Ríos and others, 'A human rights-based approach to non-communicable diseases: mandating front-of-package warning labels' (2021) 17 Globalization and Health 1.

134 See, for example, MA Young, 'Introduction: The Productive Friction between Regimes' in MA Young (ed) *Regime Interaction in International Law: Facing Fragmentation* (Cambridge: CUP 2012) 1, 1-2.

135 Vienna Convention on the Law of Treaties (adopted 22 May 1969, entered into force 27 January 1980) 1155 UNTS 331 Art. 31(3)(c).

136 A Rachovitsa, 'The Principle of Systemic Integration in Human Rights Law' (2017) 66 International and Comparative Law 557, 557. For more information on the principle, please consult M Koskeniemi, *Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law* (International Law Commission, 2006) paras. 413-480.

137 See the section *Methodological considerations for Chapters 2 and 3* above for the considerations on methods to identify human rights and corresponding State obligations.

138 Taekema (2018) (n 101) 2.

139 Taekema (2018) (n 101) 7.

140 Nederlandse Reclame Code (hereinafter NRC).

Although the research is doctrinal in nature, it must be noted that it takes into consideration a large number of non-binding documents. In fact, the chapter particularly studies a lack of statutory law – the Dutch regulation of food advertising is comprised in a system of self-regulation. Theil submits that law is 'the exclusive focus of [doctrinal] analysis […] in the sense that any doctrinal account can only engage in the close study of legal sources to derive relevant rules and principles'.[141] Generally, this includes all forms of legislation, court decisions and, potentially, international law and the decisions of international courts and tribunals.[142] Sources that are rejected 'as constitutively relevant pronouncements on the law that often occur in close proximity to […] legal sources' include all soft law instruments, declarations, and guidelines drafted by international organisations.[143] Given the lack of statutory laws in the domestic context studied, the chapter studies a non-binding regulatory system and critically assesses it against a human rights framework. To establish the human rights law framework against which the Dutch advertising rules is tested, a method similar to the one described above for Part I of the dissertation has been adopted.

The critical analysis studies whether the Dutch rules are *inclusive* of the human rights framework. A rule is *underinclusive* if it is deficient to reaching the policy goal, while it is *overinclusive* if its impact stretches beyond the policy goal.[144] Through the adoption of the external assessment framework based on the rights to health and food, the Chapter assesses whether the Dutch rules studied are inclusive of the human rights standard identified. The analysis is conducted along the lines of three accounts, phrased as questions. The first question considers which parties hold regulatory power; the second question assesses which groups' protection is considered by the regulation; and the third question analyses which media are regulated. The structured analysis allows for rights-based recommendations for reform.

Part III - EU public health law: studying EU law as a factor in the cause and prevention of NCDs[145]

The third part of the present dissertation zooms out from oral NCDs and food environments and examines how different areas of EU law intentionally and unintentionally are in a position to contribute to causing or preventing NCDs in the Union. This part consists of one chapter, titled 'EU Public Health Law in the Context of NCDs: A Tough Nut to Crack', that (non-exhaustively) identifies areas of EU law that are relevant in the context of NCD preven-

141 Theil (2015) (n 112) 1054.

142 Theil (2015) (n 112) 1054.

143 Theil (2015) (n 112) 1054.

144 PC Westerman, 'Normering via doelstelling: zorgplichten' in PC Westerman en AR Mackor (eds) *Vormen van (de?) regulering* (Den Haag: Boom Juridische Uitgevers 2008) 42.

145 The title for this part is inspired by legal epidemiology, which is defined as 'the scientific study and deployment of law as a factor in the cause, distribution and prevention of disease and injury in a population'. The part does not include a study adopting a legal epidemiology methodology. See, for example, BL Thompson, LK Cloud and L Gable, 'Legal Epidemiology: An Introduction' (2020) 26 J Public Health Manag Pract 1.

tion. The reason why this part is not limited to dental caries, oral NCDs or food environments, and rather extends to the regulation of tobacco and alcohol, is that many relevant insights for the present dissertation and the area of EU public health law research can be drawn from these other NCD risk factors and, as such, serve an illustrative purpose. This chapter is written as an article for publication in an EU (health) law journal. Similar to Part II, its aim is to inform EU lawyers, beyond the legal scholars that are concerned with public health in the EU, about the relevance and potential of their expertise for the promotion of public health. This part considers the final sub-question on how EU law can impact the incidence of NCDs. Although the chapter itself does not zoom in on dental caries specifically for reasons of broader relevance, it considers the regulation of substances of which the consumption constitutes a risk factor of NCDs and can, as such, be of exemplary value for the specific context of the present dissertation.

Methodological considerations for Chapter 6

In a similar fashion as Chapter 4, Chapter 6 adopts a theoretical or explanatory approach. The framework of public health law by Burris and colleagues, as introduced in section 2.3 above, is at the basis of the chapter and is applied to the context of EU law – specifically in the context of NCD risk factors of tobacco, alcohol, and sugars consumption. In concrete terms, the Chapter elaborates on the position of public health protection and NCD prevention within the competence structure of the EU as EU infrastructural public health laws and identifies illustrative interventional EU public health legislation and incidental legislation. Given the division of competences between the EU and its Member States in the competence area of public health, an extra category is added to the framework of public health law, namely EU public health soft law.[146] This encompasses non-binding initiatives and actions of the EU to foster public health in the Union.

For this chapter, the same methodological mechanisms as the ones adopted for Chapter 4, i.e. literature research complemented with an engaged approach, were deployed. In addition to that, further searches in EUR-lex have been conducted. In differentiating between incidental and interventional public health laws, particular importance is awarded to the objectives of legal acts of the EU. These objectives have been identified by systematically searching for explicit references to 'health', 'human health', as well as mentions of public health strategies or diseases in the recitals, objectives and provisions of EU (secondary) legislation itself.

146 Soft law refers to 'quasi-legal instruments that do not have any legally binding force', as opposed to hard law, which is binding. It includes non-binding agreements, and resolutions of international and regional organizations. See, for example, *Better Regulation and the Improvement of EU Regulatory Environment: Institutional and legal implications of the use of 'soft law' instruments* (Brussels: European Parliament 2007) 3; BM Meier, A Finch and R Habibi, 'Global Health Law: Between Hard and Soft Law' (2025) 53 J Law Med Ethics 11.

Conclusion

Finally, Chapter 7 wraps up the dissertation. It presents answers to the main research questions based on chapters of which the thesis is composed and reflects on the relevance of the findings.

4.3 Bridging gaps

The above paragraphs have indicated that, although the subject of research largely is the law, non-legal facts were also included in the chapters in different degrees: whilst Chapters 3 and 4 incorporate knowledge from the fields of dentistry (the aetiology of dental caries in Chapter 3) and public health (the conceptualization of food environments in Chapter 4) on which legal analysis is built, Chapter 6 limitedly incorporates non-legal knowledge by presuming that the regulation of tobacco, alcohol and food has an implication on NCD incidence. Conducting research that transcends the borders of a researcher's 'native' discipline contributes to grasping complex phenomena, can enrich research findings and, as such, contribute to the broadening of scientific knowledge,[147] but it must be paired with awareness and due caution: there is a thin line between normative exercises (law) and evaluative activities (public health). Both are important in informing policy change but operate differently; arguing for change through normative or moral arguments is not the same as demonstrating outcomes through empirical data and analysis – it is important to steer clear from crossing the thin line.

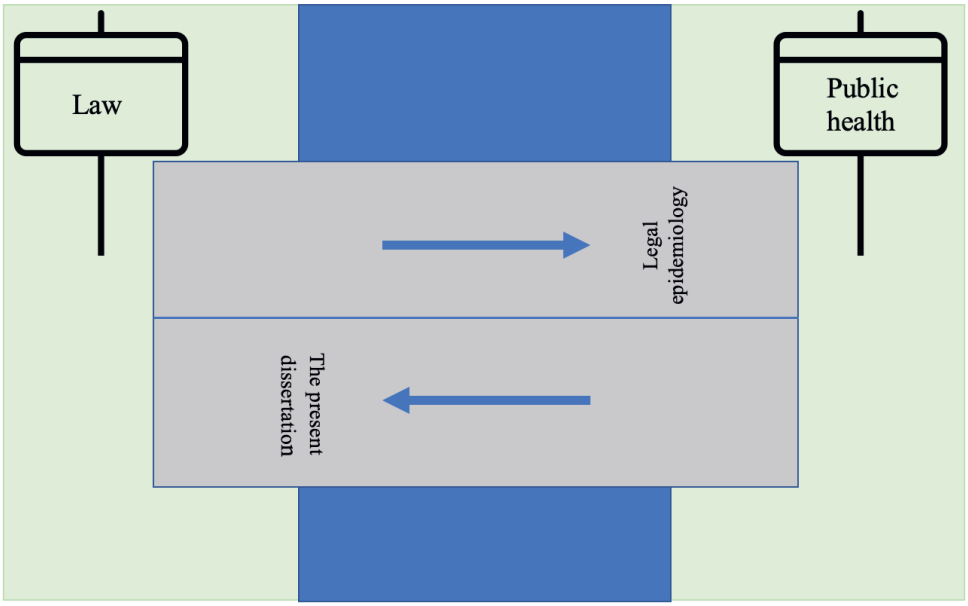

Figure 6. Bridging public health and law; a two-way street.

147 Gagné and others (2018) (n 107) 619-620.

This dissertation positions itself within the field of public health law. It is increasingly recognised that public health lawyers can bridge the gap between public health and law. For example, legal expertise can help ensure the adequate incorporation of legal facts into non-legal, public health, research: in evaluating the health outcomes of laws, lawyers are needed to ensure the correct scope, content and functioning of the law studied.[148] This type of research falls within the research practice of 'legal epidemiology',[149] and in these cases, the addition of lawyers to a research team contributes to the accuracy and quality of study results. The present dissertation does not contribute to public health research in this fashion.

Rather, this dissertation positions itself on the same bridge as public health lawyers in legal epidemiology, but facilitates the crossing of information in the opposite direction - it aims to bridge the two disciplines by fostering the (adequate) incorporation of public health insights into legal analyses and bring non-legal information to the attention of legal researchers, particularly in Chapters 3 and 4. Additionally, Chapters 3, 4, 5 and 6 contribute to informing a broad audience of lawyers about the relevance of legal expertise in addressing public health concerns through law. All chapters, i.e., Chapters 2 to 6, invite academics and practitioners interested in the interplay between law and public health to join forces.

148 See, for example, DA Pepin, R St Clair Sims, J Khushalani and others, 'A Narrative Review of Literature Examining Studies Researching the Impact of Law on Health and Economic Outcomes' (2024) 30 J Public Health Manag Pract 12; A Hoss, CS Davis and S Burris, 'Yes, You Need a Lawyer: Integrating Legal Epidemiology Into Health Research' (2020) 135 Public Health Reports 856.

149 Legal epidemiology is defined as 'the scientific study and deployment of law as a factor in population health'. See Burris and others (2023) (n 78)) 3-20.

PART I

INTERFACE I – EXPLORING THE CHILD'S RIGHT TO ORAL HEALTH UNDER INTERNATIONAL LAW: BEYOND 'DRILL AND FILL'

The chapters of this part focus on how international human rights standards relate to the prevention of dental caries in children, and particularly what the right to oral health in the context of dental caries contains. The chapters combined contribute to the answers to sub-questions 1 and 2, respectively: *What are the behavioural risk factors of poor child oral health, particularly the incidence of dental caries, that can be addressed by laws?* and *how do international human rights standards relate to the prevention of dental caries in children, and how can they inform regulatory laws and policies?*. This part forms the foundation for the remainder of the thesis, justifying the focus on food environments, as environments in which individuals make decisions about food consumption (including the consumption of sugars), which is the core theme of part II. The aim of the chapters of Part I, and the published articles, is to inform scholars in both fields of human rights law and dentistry about the right to oral health.

Chapter 2 and 3 have both been published. Chapter 2 presents a co-authored article by Dominique Mollet, David Manton, Jan Wollgast and Brigit Toebes and was published in Caries Research under the title 'A right to health-based approach to dental caries: towards a comprehensive control strategy'.[150] Chapter 3 was published as an article titled 'Conceptualizing the Child's Right to Oral Health: A Rights-Based Approach to Dental Caries' in Health and Human Rights.[151] Finally, the short essay in this interface was published as an editorial in the British Medical Journal co-authored with Greig Taylor and Brigit Toebes and is titled 'Children's right to oral health'.[152]

Children's right to oral health: A focus on rights can help improve children's oral health globally[153]

Oral diseases are a leading contributor to the overall burden of NCDs, reflecting a global crisis in oral health. Around two billion adults and children have untreated carious lesions in their permanent teeth, while 514 million children have untreated carious lesions in their primary teeth.[154] Dental caries is largely preventable,[155] and although population level (upstream) policies can help reduce prevalence, an inappropriate focus on individual oral care

150 Mollet and others (2024) (n 116).

151 Mollet (2025) (n 31).

152 SD Mollet, G Taylor and B Toebes, 'Children's right to oral health' BMJ 386 (2024).

153 This essay was published as an editorial in the British Medical Journal, ibid.

154 'Oral health' (*World Health Organization*, 17 March 2025) < https://www.who.int/news-room/fact-sheets/detail/oral-health> accessed 31 January 2026.

155 WHO Sugars and dental caries webpage (n 8).

remains.[156] This individualized approach overburdens health systems, as exemplified by the oral health crisis in the UK.[157]

Dental professionals have called for reform of the oral health system with a clear emphasis on preventive, population level policies.[158] The right to oral health, particularly every child's right to the highest attainable standard of oral health, creates an imperative for policy makers to design and implement such policies.

The WHO's GOHAP recognises that '[a]chieving the highest attainable standard of oral health is a fundamental right of every human being'.[159] The vision of this strategy centres on universal coverage for oral health for all by 2030—meaning 'that all individuals and communities have access to essential, quality health services that respond to their needs and that they can use without suffering financial hardship'.[160] Additionally, the WHO strategy recognizes the need for 'upstream interventions [...] to strengthen the prevention of oral diseases and reduce oral health inequalities'.[161]

Upstream policies are particularly important in preventing the most common oral disease, dental caries, as it is driven primarily by sugar consumption and the associated commercial and social determinants.[162] A clear focus on children is also critical,[163] as childhood caries has serious consequences for oral health in later life, largely because of the persistence of childhood sociobehavioural factors such as dietary patterns.[164] This requires a broader approach to children's oral health based on children's rights stipulated in the CRC, which is legally binding on virtually all states.[165]

Rights based approach

The right to health[166]—which includes oral health—is defined broadly by relevant UN human rights treaty bodies and others, and requires comprehensive population level measures.[167] It

156 Watt (2019) (n 14); Benzian and others (2023) (n 17).

157 RG Watt, M Stennett, C Redican, C Vernazza, 'Urgent need for transformative change in NHS dentistry' (2024) 403 Lancet 15.

158 Watt and others (2019) (n 14); Watt and others (2024) (n 157); Watt and others (2018) (n 44); Moynihan and Miller (2020) (n 24).

159 WHO GOHAP (n 8).

160 WHO GOHAP (n 8) para. 15.

161 WHO GOHAP (n 8) para. 22.

162 WHO Sugars and dental caries webpage (n 8).

163 Clark H, Coll-Seck AM, Banerjee A and others, 'A future for the world's children? A WHO-UNICEF-Lancet Commission' (2020) 395 Lancet 605

164 Shearer and Thomson (2010) (n 13); Shearer and others (2011) (n 13).

165 Clark and others (n 163); CRC (n 52) Art. 24.

166 CRC (n 52)13 Art. 24; ICESCR (n 26) Art. 12.

167 CRC GC No. 15 (n 44); Mollet and others (2024) (n 116); CESCR GC No. 14 (n 27).

goes beyond universal health coverage and includes 'facilities, goods, services and conditions necessary for the realization of the highest attainable standard of health'.[168] It additionally covers 'a right [for children] to grow and develop to their full potential and live in conditions that enable them to attain the highest standard of health through the implementation of programmes that address the underlying determinants of health'.[169]

An approach to oral health based on children's rights tackles the root causes of oral diseases with preventive policies such as those targeting the availability and accessibility of dietary sugars and oral hygiene.[170] It also emphasises a life course approach, including the importance of (preventive) measures targeting children,[171] given the intergenerational and intragenerational effects of poor oral health in childhood.[172] Finally, in response to the universal social gradient in oral diseases, with disadvantaged groups being affected disproportionately,[173] a focus on child rights offers a framework to inform the development and implementation of more equitable policies.[174]

WHO's recognition of the right to oral health is a welcome first step towards better oral health for all children globally. But a rights-based approach to implementing the WHO strategy in national settings[175] would provide important additional benefits for all relevant actors—including policy makers, clinicians, and patients—and should be prioritized. A rights-based framework would help target limited health budgets more efficiently, as studies suggest that preventive population level policies are associated with substantial cost savings for health systems, including the NHS.[176] It would also benefit clinicians by reducing the treatment burden on overstretched healthcare services such as emergency departments.[177]

Policies that uphold every child's right to oral health benefit patients directly but also have a broader societal impact. Children's oral health can be a 'canary in the coalmine',[178] since poor oral health is a precursor for other systemic NCDs such as diabetes and cardiovascular disease,[179] given their shared risk factors and intergenerational effects.[180] Better oral health

168 CESCR GC No. 14 (n 27).

169 CRC GC No. 15 (n 44).

170 Mollet and others (2024) (n 116).

171 CRC GC No. 15 (n 44).

172 Shearer and Thomson (2010) (n 13); Shearer and others (2011) (n 13).

173 Watt and others (2018) (n 44).

174 CRC GC No. 15 (n 44).

175 Clark and others (n 6).

176 *The economic value of good oral health: Report for the Wrigley oral healthcare programme* (Frontier Economics, 2023).

177 The economic value of good oral health (2023) (n 176); E Giles, S Relins, K Gray-Burrows and others, 'Dental caries and school readiness in 5-year olds: a birth cohort data linkage study' (2024) 52 Community Dent Oral Epidemiol 723.

178 Watt and others (2018) (n 44)).

179 Benzian and others (2023) (n 17).

180 Shearer and Thomson (2010) (n 13); DM Shearer, Shearer and others (2011) (n 13).

is associated with better general health during childhood and in later life. Moreover, as poor oral health in childhood is associated with missed school days and poorer educational outcomes,[181] effective policy making in this area can help reduce educational inequality.

Finally, a rights-based approach to reform of oral health systems would contribute to the fulfilment of other related rights such as the rights to (general) health, education, and rights related to children's development and wellbeing throughout the lifespan. This approach should underpin all national and international efforts to improve the oral health of children.

ABSTRACTS AND KEY WORDS

Chapter 2 - A Right to Health-Based Approach to Dental Caries: Toward a Comprehensive Control Strategy

Health is a matter of human rights, and dental caries is the most common NCD globally. Consequently, dental caries is a matter of human rights and its control, particularly prevention, must be a priority. Although largely preventable, this is too often neglected, both in the literature of human rights and health law, and in dental research. The right to oral health has recently been acknowledged by the WHO, but it is insufficiently clear what this right entails. This chapter introduces a right to health-based narrative in the context of dental caries. The right to health is stipulated in human rights treaties, including the ICESCR and the CRC. States that are parties to these treaties, which are virtually all States globally, are mandated to ensure the enjoyment of individuals' right to the highest attainable standard of health, including oral health. It explains that dental caries is a matter of human rights, and that States have binding obligations to address dental caries: they require the regulation of the healthcare system, i.e., the traditional focus on operative care, but also put the regulation of other risk factors on an equal footing, such as the regulation of the living environment and access to fluoride. A right to health-based approach to dental caries thus offers a comprehensive approach to dental caries control, particularly prevention.

Key words: human rights law, dental caries, dental public health, prevention, the right to health

Chapter 3 - Conceptualizing the Child's Right to Oral Health: A Rights-Based Approach to Dental Caries

Dental caries is the most common NCD globally and is a substantial burden for both adults and children yet remains largely neglected. The WHO recognized the right to oral health in 2024. This chapter introduces a comprehensive framework for children's right to oral health

181 WHO Sugars and dental caries webpage (n 8); Giles E, Relins S, Gray-Burrow K and others, 'Dental caries and school readiness in 5-year olds: a birth cohort data linkage study' (2024) 52 Community Dent Oral Epidemiol 723.

based on the provisions of the ICESCR and the CRC. It demonstrates that, although human rights treaties do not explicitly recognize the right to oral health, oral health, and particularly dental caries, is a matter of human rights. The first part of the chapter clarifies how dental caries is a child rights matter, while the second part proposes a rights-based approach to the regulation of its risk factors.

Key words: children's rights; dental caries



Chapter 2

A right to health-based approach to dental caries: towards a comprehensive control strategy

Published as:
SD Mollet, DJ Manton, J Wollgast and B Toebes,
'A Right to Health-Based Approach to Dental Caries:
Towards a Comprehensive Control Strategy' (2024) 58 Caries Res 444.

1. INTRODUCTION

Poor oral health is a matter of major concern: 3.5 billion people suffer from oral diseases globally.[182] More particularly, dental caries, a largely preventable condition, is the most common health condition worldwide, with approximately 2 billion persons suffering from caries of their permanent teeth, with most untreated.[183] Children are not spared from this condition, with 520 million children suffering from caries of their primary teeth. [184]

Dental caries is a multifactorial NCD. It is largely caused by modifiable, behavioural risk factors, including dietary factors, and it disproportionately affects persons of lower socioeconomic status (SES). [185] As the vast majority of individuals are exposed to so-called food environments that predispose them to unhealthy food choices,[186] it is important to supplement individual responsibility. Food environments are created by commercial drivers, rather than the objective to improve health.[187] The current focus on individual intervention and the lack of a focus on prevention policies at the population level exacerbate existing inequalities. Preventive policies at the population level are necessary to protect all individuals. Dental researchers have also recognized the need for a government-led strategy and submitted that 'it is time for radical action' and that protecting oral health goes 'beyond the chair'.[188] The momentum for change is current, as the first global strategy on oral health has been adopted by the WHO in May 2022, underlining the need for upstream policies on oral health protection.[189]

Comprehensive disease control at population level, which consists of risk factor regulation and secondary prevention, is essential to protect the most vulnerable persons in society effectively from poor oral health and the experience of, amongst other conditions, dental caries. Human rights law, a body of law that has at its core the protection of human dig-

182 WHO Oral health webpage (n 154).

183 WHO Oral health webpage (n 154).

184 WHO Oral health webpage (n 154).

185 WHO Oral health webpage (n 154).

186 C Hawkes, TG Smith, J Jewel and others, 'Smart food policies for obesity prevention' (2015) 385 Lancet 2410. Food environments are defined as: 'the physical, economic, political and socio-cultural context in which consumers engage with the food system to make decisions on acquiring, preparing and consuming food', HLPE (n 53).

187 R Moodie, B Swinburn, J Richardson and B Somaini, 'Childhood obesity – a sign of commercial success, but a market failure' (2006) 1 Int J Paediatr Obest. 133; BA Swinburn, G Sacks, KD Hall and others, 'The global obesity pandemic: shaped by global drivers and local environments (2011) 378 Lancet 804; SK Djojosoeparto, CBM Kamphuis, S Vandevijvere and others, 'Strength of EU-level food environment policies and priority recommendations to create healthy food environments (2020) 32 Eur J Public Health 504.

188 Watt and others (2019) (n 14); Moynihan and Miller (2020) (n 24).

189 'Seventy-fifth World Health Assembly – Daily Update' (*World Health Organization*, 26 May 2022) <https://www.who.int/news/item/27-05-2022-seventy-fifth-world-health-assembly---daily-update--27-may-2022> accessed 31 January 2026; 'Landmark global strategy on oral health adopted at World Health Assembly 75' (*World Health Organization*, 2022) <https://www.who.int/news-room/feature-stories/detail/landmark-global-strategy-on-oral-health-adopted-at-world-health-assembly-75> accessed 31 January 2026.

nity, has proven to be a powerful tool in informing public health and prevention policies, for instance, in the area of tobacco control.[190] Unfortunately, the concept of oral health as a matter of human rights (law) and the right to oral health itself have been little researched and developed.[191]

This chapter introduces a simplified framework of how the right to health requires the adoption of a more comprehensive prevention strategy to address dental caries, including not only dental care attendance, but also sugars consumption, fluoride exposure and oral health literacy.[192] This framework is a simplification in the sense that the right to health is taken as the core of the analysis, whereas the right to oral health in its complete form is connected to numerous other rights, such as the right to adequate nutrition and the child's right to life, survival and development.[193] The chapter first introduces human rights law; then, the basics of the right to health are explained further. Finally, the article aims to clarify how a right to health-based approach to dental caries informs a comprehensive prevention strategy that stretches beyond oral healthcare. Besides secondary prevention, i.e., access to healthcare and mitigating the consequences of caries experience, the right to health prescribes States to ensure primary prevention and address other risk factors reducing the development of dental caries.

2. WHAT IS HUMAN RIGHTS LAW?

Human rights are stipulated in human rights treaties (for clarification of legal terms, please consult the glossary in Table 5): international 'contracts' among States that create obligations for States vis-à-vis individuals.[194] These treaties mandate governments to protect and promote a number of rights, including the right to health. Besides the fact that the treaties and the standards they prescribe are legally binding to the States' parties, they also have strong moral value, as all human rights 'derive from the inherent dignity of the human person', the protection of which is also a core objective of human rights.[195]

190 ME Gispen and B Toebes, 'The Human Rights of Children in Tobacco Control (2019) 41 Human Rights Quarterly 340.

191 Jean and others (2020) (n 25); Jean and others (2021) (n 25).

192 Importantly, the development of a right to health-based approach and narrative is also relevant for other oral diseases, such as periodontal disease, oral cancer and Noma. This, however, falls outside the scope of the present review and should be subject of subsequent studies.

193 ICESCR (n 26) Art. 11; CRC (n 52) Art. 6.

194 F Mégret, 'Nature of obligations' in D Moeckli, S Shah and S Sivakumaran (eds), *International Human Rights Law* (Oxford: OUP 2018) 86.

195 ICESCR (n 26); H Sinding Assen and M Hartlev, 'Human Rights Principles and Patient Rights' in B Toebes, M Hartlev, A Hendriks and others (eds), *Health and Human Rights* (Cambridge: Intersentia 2022) 53.

Table 5. Glossary: legal terms relevant for this chapter and the dissertation explained in simple terms

Term	Explanation
Core rights	The minimum core content of rights that must be protected to guarantee the right. They can be found, among other places, in General Comments
Core obligations	The States' obligations to protect the minimum core content to ensure the enjoyment of a right. They can be found, among other places, in General Comments
General Comments	Document in which treaty bodies interpret, among other things, specific rights. These documents are highly authoritative in the interpretation of right, but they are not binding
Guiding principles	Concepts or frameworks that guide the proper implementation of (components of) rights. They can be found, among other places, in General Comments
Interference with a right	Limitation of a right, which does not necessarily amount to a violation
ICESCR	Treaty stipulating generally applicable economic, social, and cultural rights, including the right to health
Participation	Principle of human rights law that prescribes the right for all persons to be involved in decision-making processes that affect them
Policy recommendations	Non-binding recommendations for policies to adopt
Progressive realisation	Concept that acknowledges difficulties and limitations of implementing socioeconomic rights and requires the content of rights beyond their core to be implemented continuously and effectively, but not necessarily immediately
Rights	Rights are stipulated in human rights treaties and apply to all persons that fall within the scope of the treaty
Rights-based approach	An approach to (societal) matters that is normatively based on human rights law and aims to promote and protect human rights
Socioeconomic rights	Human rights that refer to social and economic conditions that are necessary to ensure human dignity and sustainable lives
Standard	Rules set by human rights treaties
Treaty	A legally binding agreement between two or more countries, governed by international law
Treaty bodies	Bodies endowed with competences to interpret the content of human rights treaties
Tripartite division of obligations	Categorization of human rights obligations, divided into obligations to respect, protect, and fulfil. This division also exists for the obligations under the right to health
CRC	Widely accepted treaty that stipulates the rights of children, including the right to health

Under the United Nations (UN) system, a total of nine binding human rights instruments exists.[196] Of these treaties, two are general in nature and award rights to all individuals, namely

196 C Chinkin, 'Sources' in D Moeckli, S Shah and S Sivakumaran, *International Human Rights Law* (Oxford: OUP 2018) 63; 'The Core International Human Rights Instruments and their monitoring bodies' (*Office of the High Commissioner on Human Rights*) < https://www.ohchr.org/en/core-international-human-rights-instruments-and-their-monitoring-bodies> accessed 31 January 2026.

the International Covenant on Civil and Political Rights (ICCPR) and the ICESCR.[197] Additionally, the other seven cover distinct themes or provide special protection for vulnerable groups, such as the CRC.[198]

Human rights treaties do not stipulate concrete standards, but rather provide broadly-phrased standards. Such broadly-phrased norms are consequently interpreted by the treaty bodies that are authorized, among other competences, to produce authoritative guidance on the content of and obligations arising from these provisions, in so-called General Comments.[199] The treaty bodies thereby clarify the norms prescribed and offer guidance for the implementation into the prevailing national circumstances. General Comments sometimes concretize measures to be taken, but may also require States to rely on international standards, such as those set by specialized international organizations including the WHO.[200]

Although there are concerns about a lack of implementation and enforcement of socioeconomic rights, a rights-based approach to health and NCD prevention strategies offers several advantages. The legally binding nature of human rights law adds weight to health as a value: the right to health as stipulated in human rights treaties establishes legally binding standards, rather than a set of non-binding policy recommendations for States to adopt.[201] Moreover, human rights law offers a strong accountability mechanism for States to take measures.[202] As participation is one of the key principles of human rights law, a rights-based approach also emphasizes the role of civil society organizations in policy-making processes, thereby enhancing policy outcomes.[203] Furthermore, in a world where commercial and economic interests tend to prevail, human rights law offers a stronger response in favour of human dignity.[204] Finally, if governments or third parties continue to act in breach with human rights, this breach can provide grounds for strategic litigation in some jurisdictions.[205]

197 ICESCR (n 26).

198 CRC (n 52).

199 J Connors, 'United Nations' in D Moeckli, S Shah and S Sivakumaran, *International Human Rights Law* (Oxford: OUP 2018) 369.

200 *CESCR General Comment No. 24 (2017) on State obligations under the International Covenant on Economic, Social and Cultural rights in the context of business activities* (United Nations Committee on Economic, Social and Cultural Rights, 10 August 2017) E/C.12/GC/24 (hereinafter CESCR GC No. 24), para. 19.

201 *Policy Paper: Non-Communicable Diseases and the Right to Health, Paper 05.6* (United Nations Interagency Task Force on NCDs, 2017).

202 Policy Paper: NCDs and the Right to Health (n 191); B Toebes and D Patterson, 'Human rights and Non-Communicable Diseases: Controlling Tobacco and Promoting Healthy Diets' in LO Gostin and BM Meier (eds), *Foundations of Global Health & Human Rights* (Oxford: OUP, 2020) 243.

203 Policy Paper: NCDs and the Right to Health (n 202); Toebes and Patterson (2020) (n 202).

204 Toebes and Patterson (2020) (n 202).

205 T Ezer and P Patel, 'Strategic Litigation to Advance Public Health (2018) 20 Health and Human Rights 149; S Zhou, E Ricafort, D Bressler and R Kitonyo Devotsu, 'Litigation in tobacco control: past, present and future (2021) 31 Tob Control 291.

3. WHAT DOES THE RIGHT TO HEALTH ENTAIL?

The right to the highest attainable standard of health lies at the base of framing oral health as a matter of human rights and children's rights. Both the ICESCR and the CRC stipulate this right, in Articles 12 and 24 respectively.[206] The ICESCR specifies that the right to health covers both physical and mental health.[207] Given that oral health forms an integral part of general health and is inherently connected to general health,[208] it is clear that the rights and obligations arising from the right to health apply to the specific context of oral health.[209]

The right to health qualifies as a socioeconomic right, the reason for which the ICESCR is an important source substantiating the argument conveyed in the present chapter. The CRC is a pertinent treaty to rely on as well, as a children's rights approach to oral health is pivotal in framing oral health as a human rights matter. In fact, such an approach should be awarded particular importance in the discourse on dental caries and oral health inequalities, as children are considered a vulnerable group when it comes to dental caries.[210] In addition to this, patterns established in childhood are constitutive for a person's later life and the consequences of poor child oral health do not end at adolescence.[211] The consequences are rather serious and far-reaching: there are clear inter-generational, as well as intra-generational links related to poor child oral health given the persistence of habits established in childhood.[212] In practice, this means that not only are children with high caries experience more likely to be at increased risk of dental caries in their later lives themselves, but they also have a higher chance of vicariously passing this risk on to their own children via socio-behavioural factors.[213] Besides substantive reasons to base the analysis on the CRC, it also offers a strong accountability tool: with 196 States having signed the CRC, it is the most widely accepted treaty.[214] Additionally, children's rights strategies are firmly rooted in policy-making pro-

206 ICESCR (n 26) Art. 12; CRC (n 52) Art. 24.

207 ICESCR (n 26) Art. 12.

208 W Sabbah, M Folayan Oluwatoyin and M El Tantawi, 'The Link between Oral and General Health' [2019] Int J Dent.; DM Bhatnagar, 'Oral Health: A Gateway to Overall Health' (2021) 12 Contemp Clin Dent 211.

209 Jean and others (2021) (n 25).

210 WHO Sugars and dental caries webpage (n 8).

211 Shearer and Thomson (2010) (n 13); DM Shearer, WM Thomson, A Caspi and others, 'Family history and oral health: findings from the Dunedin Study' (2011) 40 Community Dent Oral Epidemiol. 105.

212 DM Shearer and W Murray Thomson, 'Intergenerational continuity in oral health: a review' (2010) 38 Community Dent Oral Epidemiol 479.

213 Shearer and others (2011) (n 201).

214 'Convention on the Rights of the Child' (*United Nations Treaty Collection*) <https://treaties.un.org/Pages/showDetails.aspx?objid=08000002800007fe&clang=_en> accessed 31 January 2026.

cesses, including at the EU-level.[215] These facts strongly emphasize the moral and universal value and weight of the CRC's norms.

It is important to emphasize that the right to health has a dual structure and extends to both the provision of healthcare, as well as the underlying determinants of health.[216] This means that beyond the provision of healthcare, States must also ensure, among other things, the provision of adequately nutritious food, as well as circumstances in which all individuals and communities can enjoy their right to health.[217] In this regard, the right to health includes a right to the prevention of diseases.[218] In order to ensure this right, States must put in place disease prevention programmes and promote the social determinants of good health.[219]

As indicated above, the right to health is a socioeconomic right. A characteristic of socioeconomic rights is that, besides prescribing so-called 'core obligations' for States, the majority of the obligations arising from such rights are to be realized progressively.[220] The core obligations prescribe minimum obligations 'to ensure the satisfaction of, at the very least, minimum essential levels of each of the rights' incumbent upon the Parties and thereby protect the essential elements providing the substantive significance to each right.[221] Beyond the core obligations, the concept of progressive realization embodies the 'recognition of the fact that realization of all economic social and cultural rights will generally not be able to be achieved in a short period of time'.[222] Progressive realisation therefore implies that the right does not prescribe static obligations, but it acknowledges restraints of limited available resources.[223] This shapes rather 'tailor-made' obligations for States: the precise content of the right to health is adaptable to the existing circumstances in the State concerned in combination with the availability of resources.[224]

215 *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: EU strategy on the rights of the child* (Brussels: European Commission, 24 March 2021) Com(2021) 142 final.

216 CESCR GC No. 14 (n 27) para. 11.

217 CESCR GC No. 14 (n 27) para. 11.

218 CESCR GC No. 14 (n 27) para. 16; ICESCR (n 26) Art. 12(2)(c); CRC (n 52) Art. 24(2)(c).

219 CESCR GC No. 14 (n 27) para. 16.

220 CESCR GC No. 14 (n 27) paras. 30-32.

221 *CESCR General Comment No. 3: The Nature of States Parties' Obligations* (Art. 2, Para. 1, of the Convention) (United Nations Committee on Economic, Social and Cultural Rights, 14 December 1990) E/1991/23 (hereinafter CESCR GC No. 3), para. 10; S Russel and A Chapman, 'Introduction' in S Russel and A Chapman (eds) *Core obligations: Building a Framework for Economic, Social and Cultural Rights* (Antwerp: Intersentia 2002) 1; B Toebes and K Ó Cathaoir, 'The Right to Health: Central Concepts' in B Toebes, M Hartlev, A Hendriks and others (eds), *Health and Human Rights* (Cambridge: Intersentia 2022) 23.

222 CECR GC No. 3 (n 221) para. 9.

223 CESCR GC No. 14 (n 27) paras. 30-32.

224 CESCR GC No. 14 (n 27) para. 32.

It is important to emphasize that the progressive realization of the right to health does not reduce the meaningful content of obligations.[225] Unwillingness to invest resources is not in accordance with the progressive realization of the right to health. Rather, States 'have a specific and continuing obligation to move as expeditiously and effectively as possible towards the full realization of [the right to the highest attainable standard of health]'.[226] Obligations under the progressive realization can thus be interpreted to be immediate, although full implementation of rights will be progressive.[227] In concrete terms, this means that States must take immediate action to fulfil the core obligations under the right to health, but that such action should not be limited to this. Rather, efforts must be continuous in the sense that they adapt to the conditions prevailing in a particular State party.[228]

An important guiding principle that translates the prescribed rights, and corresponding State obligations, into concrete standards or benchmarks is the so-called AAAQ framework, requiring the Availability, Accessibility, Acceptability and Quality of health facilities, goods and services.[229] This generic framework applies to all components of which the right to health consists, thus not only covering the provision of healthcare, but also the social determinants of health,[230] which underlie the observed social gradients in diseases, including dental caries, and health determinants, such as consumption of unhealthy food and overall nutrition. The AAAQ framework helps to concretize the standards set in human rights treaties as it offers guidance to determine the adequate implementation of the right to health in light of the particular conditions prevailing in States.[231] In order to determine the benchmark for the implementation of the right to health, health facilities, goods and services must be available sufficiently, depending on, among other things, the level of development of States.[232] Secondly, such facilities, goods and services must be physically and economically accessible in a non-discriminatory fashion.[233] Thirdly, they must be acceptable in terms of medical ethics, cultural factors, confidentiality and must improve health outcomes.[234] Finally, these facilities, goods and services must be of scientifically and medically appropriate quality.[235] Altogether, the AAAQ-framework offers a comprehensive structure emphasizing States' obligations to ensure favourable circumstances, thereby bypassing individual responsibility.

225 CESCR GC No. 14 (n 27) para. 30-31.

226 CESCR GC No. 14 (n 27) para. 31.

227 Emphasis added, CESCR GC No. 3 (n 221) para. 9; P Alston and G Quin, 'The Nature and Scope of States Parties' Obligations under the International Covenant on Economic, Social and Cultural Rights' (1987) 9 Human Rights Quarterly 156.

228 CESCR GC No. 14 (n 27) paras. 10, 31, 53.

229 CESCR GC No. 14 (n 27) para. 12.

230 CESCR GC No. 14 (n 27) para. 12.

231 CESCR GC No. 14 (n 27) para. 12.

232 CESCR GC No. 14 (n 27) para. 12(a).

233 CESCR GC No. 14 (n 27) para. 12(b).

234 CESCR GC No. 14 (n 27) para. 12(c).

235 CESCR GC No. 14 (n 27) para. 12(d).

4. WHAT SHOULD STATES DO TO ENSURE THE ENJOYMENT OF THE RIGHT TO HEALTH IN THE CONTEXT OF DENTAL CARIES?

The framework of the right to health is particularly relevant in the context of dental caries. The common prevalence of a largely preventable NCD, in this case dental caries, is per definition a limitation to individuals' enjoyment of the right to health and a limiting factor to the full realization of the right to health.[236] This is especially the case when the risk factors are related to behavioural factors, which are strongly influenced by the contexts that can be regulated by States.[237] The fact that (untreated) dental caries remains the most common NCD globally, while it is largely preventable, demonstrates that individual responsibility, including for healthy behaviours and seeking (oral) healthcare, should be supplemented. Human rights law, and particularly the right to health, offers a suitable framework for this and mandates States to adopt government measures when individuals are unable to fully enjoy their rights, including the right to health, in prevailing circumstances. Substantively, it complements obligations concerning the provision and access to healthcare facilities with obligations to address an enabling living environment and regulation of industries that promote the consumption of unhealthy foods, such as those high in free sugars.

In setting obligations, the right to health provides States with a framework for implementation. Besides guiding principles such as the AAAQ-framework introduced above, the obligations arising from the right to health are interpreted along the lines of three categories of legal obligations: the obligations to respect, protect and fulfil. The obligation to respect entails a negative obligation for States, i.e. an obligation not to interfere with individuals' enjoyment of rights. The obligation to protect requires States to protect individuals from third parties that may interfere with their rights. Finally, the obligation to fulfil mandates States to create an environment that stimulates the enjoyment of rights.[238]

In the remainder of this section, the tripartite division of obligations serves as the framework under which a right to health-based approach to dental caries is analysed. These categories of legal obligations are supplemented with guiding principles of human rights law and their interpretation is guided by the authoritative General Comments on the right to health. Accordingly, the Committee on Economic, Social and Cultural Rights' (CESCR) General Comment No. 14 on the right to health under the ICESCR and General Comment No. 15 by the Committee on the Rights of the Child on the CRC's right to health (i.e., the child's

236 CESCR General Comment No. 14 highlights that there is no right to be healthy, but that 'the right to health must be understood as a right to the enjoyment of a variety of facilities, goods, services and conditions necessary for the realization of the highest attainable standard of health', CESCR GC No. 14 (n 27) para. 9.

237 CESCR GC No. 14 (n 27) para. 11.

238 CESCR GC No. 14 (n 27) paras. 33-37.

right to health) constitute the base of guidance for interpretation.[239] To ensure a good flow of analysis, we first discuss the obligations to respect and fulfil, and then move to the obligation to protect.

4.1 The obligation to respect

Interpreting the three types of obligations under the right to health in light of the current state of regulation in most States, the obligation to respect is rather straightforward: States should not act in a manner that interferes with individuals' right to health and should not interfere with individuals' enjoyment of the right to health, by, for example, restricting access to (available) oral healthcare facilities or oral hygiene products. This (also) includes that available care should be provided in a non-discriminatory fashion, which means that the State cannot adopt laws restricting healthcare or medication for certain groups of individuals. The obligation to respect furthermore requires 'States not [to] engage in any conduct that is likely to result in preventable, diet-related morbidity and mortality, such as incentivizing the consumption of unhealthy foods and beverages'.[240]

4.2 The obligation to fulfil

The obligation to fulfil the right to health mandates States to recognize the right to health in domestic laws and policies.[241] It is sub-divided into three obligations, namely the obligation to *facilitate* individuals' enjoyment of the right to health; the obligation to *provide* the enjoyment of a right when individuals are unable to do so by themselves; and the obligation to *promote* the right via 'actions that create, maintain and restore' health.[242] The obligation to fulfil the right to health thus prescribes that States must create a domestic context in which all individuals can enjoy their rights. It requires States to adopt positive measures enabling individuals to enjoy their rights, facilitate and promote rights among individuals and to provide them with the required means to make use of their rights.[243] Substantively this means that States must ensure that oral healthcare facilities meet the AAAQ-standard, but it also extends to broader, programmatic obligations that facilitate the prevention of NCDs.

The obligation to fulfil requires States to develop a national health policy and establish a healthcare system.[244] The healthcare system must be in accordance with the AAAQ standards and the obligation to fulfil provides additional guidance as to how this can be ensured. To guarantee adequate quality of care, States must ensure that medical personnel are skilled and the obligation to provide for appropriate training and education carries a priority comparable

239 CESCR GC No. 14 (n 27); CRC GC No. 15 (n 44).

240 Special Rapporteur Report (Tlaleng Mofokeng, 2023) (n 125) para. 12.

241 CESCR GC No. 14 (n 27) paras. 36-37.

242 CESCR GC No. 14 (n 27) para. 37.

243 CESCR GC No. 14 (n 27) paras. 36-37.

244 CESCR GC No. 14 (n 27) para. 36.

to core obligations.[245] Another core 'to fulfil' obligation entails ensuring the non-discriminatory access to health facilities for all.[246] In this vein, States must safeguard the physical accessibility of oral healthcare facilities,[247] which can be interpreted to require that enough clinics are available and that they are equally distributed throughout the territory. Finally, to ensure the economic availability of oral healthcare facilities, States must establish a healthcare insurance system; such a system may be public, private or mixed, but must be 'affordable for all'.[248]

In addition to this, the obligation to fulfil encompasses the duty to ensure access to essential medicines. This obligation qualifies as a core obligation and non-compliance is therefore in breach of the right to health. This is particularly relevant in the context of dental caries, given that fluoride in its topical version has been added to the WHO Model List of Essential Medicines, as well as the WHO Model List of Essential Medicines for Children in 2021.[249] Accordingly, with this newly acquired status of an essential medicine, the right to health mandates States to ensure the availability of fluoride.[250] The recent elevation of the status of fluoride as an essential medicine, and therefore as part of the core of the right to health, indicates the pertinence of good oral health as a component of the right to health, as well as the importance of preventive practices.

In addition to ensuring access to healthcare and essential medicines, the obligation to fulfil the right to health also concerns enabling individuals to enjoy their right to health by informing and assisting them.[251] This dimension is especially relevant when it comes to individuals' interaction with the (food) environment. Enabling individuals to achieve their fullest health potential has been recognized as a key concept in health promotion.[252] The concept focuses on capacitating individuals to be in charge of factors that determine their health outcomes through, for example, an environment that supports healthy options.[253]

Connecting this to the State obligations under the right to health, States have a core obligation to 'ensure access to the minimum essential food which is nutritionally adequate and safe'.[254]

245 CESCR GC No. 14 (n 27) paras. 36 and 44(e).

246 CESCR GC No. 14 (n 27) para. 12(b).

247 CESCR GC No. 14 (n 27) para. 12(b)(iii).

248 CESCR GC No. 14 (n 27).

249 *World Health Organization Model List of Essential Medicines – 22nd List* (World Health Organization, 2021) (hereinafter 22nd WHO Model List of Essential Medicines; *World Health Organization Model List of Essential Medicines for Children – 8th List* (World Health Organization, 2021). It is still in the revised list of September 2025, *World Health Organization Model List of Essential Medicines – 24th List* (World Health Organization, 2021) (hereinafter 24th WHO Model List of Essential Medicines); *World Health Organization Model List of Essential Medicines for Children – 10th List*.

250 CESCR GC No. 14 (n 27) para. 43(d).

251 CESCR GC No. 14 (n 27) para. 37.

252 *Ottawa Charter for Health Promotion* (Geneva: World Health Organization, 1986) (hereinafter Ottawa Charter).

253 Ottawa Charter (n 252).

254 CESCR GC No. 14 (n 27) para. 43(b).

In addition, the dissemination of information concerning health problems and methods of prevention is also comparable to a core obligation.[255] An example of a positive measure in line with the obligation to fulfil the right to health is building (oral) health literacy, thereby enabling individuals to make informed oral health decisions and enhancing health outcomes after treatment.[256] This is particularly relevant for child oral health, given that parental oral health literacy can be associated with caries experience in their children's teeth.[257] Similarly, the obligation to fulfil the right to health mandates States to '[disseminate] appropriate information relating to healthy lifestyles and nutrition'.[258] Accordingly, this could, among other things, require States to adopt educational measures on oral health and hygiene, although evidential support on the effectiveness of such measures remains limited.[259] Besides enabling individuals directly, the obligation to fulfil furthermore mandates States to foster research that can further positive health outcomes.[260] Although not explicitly listed in the General Comments, other policies that may be adopted in light of the obligation to fulfil include those that create a supportive environment in which consumers are informed about their choices, including labelling requirements for food products and food procurement policies favouring healthy options for public institutions.[261]

4.3 The obligation to protect

The obligation to protect proves to be of particular importance in framing a right to health-based approach in the context of dental caries. This obligation requires States to protect individuals from interferences with their right to health by third parties.[262] The Committee on the Rights of the Child interprets this obligation to include the protection from 'both freedoms and entitlements from third parties or from social or environmental threats'.[263] More concretely, this can thus be interpreted to mean that States must protect individuals from, among other things, harmful medical practices by third parties or marketing practices by businesses. This obligation is, however, not unlimited, as it cannot be interpreted to oblige States to protect individuals 'against every possible cause of human ill health' including the adoption of unhealthy lifestyles.[264] Nevertheless, it is clear that in some circumstances the obligation to protect requires direct regulation and intervention to protect public health and prevent

255 CESCR GC No. 14 (n 27) para. 44(d).

256 CESCR GC No. 14 (n 27) para. 37.

257 R Targino Firmino, F Morais Ferreira, C Castro Martins and others, 'Is parental oral health literacy a predictor of children's oral health outcomes? Systematic review of the literature' (2018) 28 Int J Paediatr Dent 459.

258 CESCR GC No. 14 (n 27) para. 37.

259 C Stein, NM Lopes Santos, J Balbinot Hilgert and FJ Neves Hugo, 'Effectiveness of oral health education on oral hygiene and dental caries in schoolchildren: Systematic review and meta-analysis' (2018) 46 Community Dent Oral Epidemiol. 30.

260 CESCR GC No. 14 (n 27) para. 37.

261 Special Rapporteur Report (Tlaleng Mofokeng, 2023) (n 125) paras. 73-86.

262 CESCR GC No. 14 (n 27) para. 35.

263 CRC GC No. 15 (n 44) para. 71.

264 CESCR GC No. 14 (n 27) para. 9.

the occurrence of NCDs.[265] The phrasings adopted by both the CESCR and the Committee on the Rights of the Child indicate that the obligation extends to protecting individuals from actors that create environments that predispose the adoption of unhealthy lifestyles, such as food and beverages industries, and actors that can greatly influence individual health decisions, such as private healthcare facilities and insurance schemes.[266] The analysis below considers two relevant dimensions in the caries prevention discourse under the obligation to protect: firstly, individuals' (equal) access to oral healthcare services provided by third parties must be ensured and, secondly, they must be protected from certain marketing practices of food and beverages business operators creating a 'cariogenic living environment'.

Firstly, the obligation to protect is of relevance in the context of the oral healthcare system. States have an obligation to ensure that all individuals, including vulnerable groups, have equal access to healthcare and health-related services provided by third parties.[267] Under the obligation to protect, States are mandated to ensure that the so-called 'AAAQ' of care is realised in the case of health sector privatisation.[268] Particularly, States must ensure equal access to healthcare facilities for all, including marginalized groups.[269] For instance, in cases of denial of access to dental healthcare for HIV-infected patients or hesitant attitudes among dentists to treat HIV-infected patients,[270] the State must protect such patients. It can do so by regulating third parties that can limit equal access to oral healthcare, ensuring access to oral healthcare for all.[271]

The obligation to protect is particularly relevant in light of the existing oral healthcare financing and care models that are known for their private nature. A recent publication by the European Observatory on Health Systems and Policies on the financing of, access to and provision of oral healthcare in 22 European countries (2022) demonstrates that, on average, the oral healthcare system, largely run by private healthcare providers, is 68% funded by private spending namely voluntary health insurance premiums and out-of-pocket payments, making it the most privately funded area of healthcare provision.[272] This comes with serious potential consequences: dental attendance appears to be lower in States with non-publicly

265 CESCR GC No. 24 (n 200) para. 19.

266 CESCR GC No. 14 (n 27), para. 35.

267 CESCR GC No. 14 (n 27), para. 35.

268 CESCR GC No. 14 (n 27), paras. 12(b)(iii) and 35.

269 CESCR GC No. 14 (n 27) para. 12(b)(ii).

270 L Esquivel-Pedraza, L Fernández-Cuevas, L Pedrosa-Islas and others, 'Refusal to treat HIV-patient in dentistry (2008) 65 Rev ADM. 183; G Deegan, 'Woman refused dental treatment due to HIV status to receive €10,000' (*The Irish Times*, 4 June 2019) < https://www.irishtimes.com/news/ireland/irish-news/woman-refused-dental-treatment-due-to-hiv-status-to-receive-10-000-1.3914542> accessed 5 July 2026; GM McCarthy, JJ Koval and JK MacDonald, 'Factors associated with refusal to treat HIV-infected patients: the results of a national survey of dentists in Canada' (1999) 89 Am J Public Health 54.

271 CESCR GC No. 14 (n 27) paras. 12(b)(ii) and 35.

272 J Winkelmann, J Gomez Rossi, E van Ginneken, 'Oral Health Care in Europe: Fincancing, Access and Provision' (2022) 24 Health Syst Transit 1, 48.

funded oral healthcare systems, and unmet oral-health needs are higher in States where oral healthcare is not covered by any sort of insurance.[273] Additionally, in most States a large gap exists between the rates of unmet oral healthcare needs caused by financial reasons amongst individuals with the lowest incomes (22 per cent) and the highest incomes (7 per cent), a gap that is significantly larger than the same gaps in publicly regulated areas of healthcare, such as medical care and prescribed medicines.[274] As oral health is an integral component of health, these statistics indicate that the right to access to health facilities, a core right, is not optimally fulfilled when it comes to oral healthcare. States retain responsibility for realizing healthcare services as a core obligation of the right to health, even when services are provided privately.

In fact, the above circumstances trigger State obligations under the principles of accessibility to health facilities and equal treatment. The principle of accessibility under the AAAQ contains an economic component: the provision of all health facilities and services, whether they are publicly or privately provided, must be based on the principle of equity and must be affordable for all.[275] Remarkably, especially against the backdrop of the limited coverage of oral healthcare in most national health systems, in order to protect the equal treatment of those lacking economic access to health facilities and services, States have a special obligation to provide necessary health insurances.[276] In other words, this obligation implies that States remain ultimately responsible for realizing the right to health, irrespective of whether the services are provided publicly or privately: healthcare privatization does not remove the State's responsibility. Connecting this to the prevailing domestic contexts of oral health inequalities and unmet needs in Europe as indicated by Winkelmann and others, the obligation to protect the right to health requires States to ensure equal access to healthcare services, including oral healthcare services.

Additionally, the marketing of food products high in free sugars can contribute to the creation of a cariogenic environment.[277] By cariogenic environment, we do not refer to the oral environment, but rather to the larger social and food environment in which cariogenic foods are widely promoted, readily available, easily accessible and socially embedded in daily life.

273 Winkelmann and others (2022) (n 272) 107.

274 Winkelmann and others (2022) (n 272) 107.

275 CESCR GC No. 14 (n 27) para. 12(b)(iii).

276 CESCR GC No. 14 (n 27) para. 19.

277 T Gatou, E Mamai-Hormata, H Koletsi-Kounari, A Polychronopoulou, 'The Short-Term Effects of Television Advertisements of Cariogenic Foods on Children's Dietary Choices (2016) 66 Int Dent J. 287; B Sadeghirad, T Duhaney, S Motaghipissheh, NRC Campell and BC Johnston, 'Influence of unhealthy food and beverage marketing on children's dietary intake and preference: a systematic review and meta-analysis of randomized trials (2016) 17 Obes Rev. 945; WHO Food marketing guideline (n 74); *Taking action to protect children from the harmful impact of food marketing: a child rights-based approach* (Geneva: World Health Organization and UNICEF, 2023.

States have an obligation to protect individuals from this.[278] In fact, the CESCR has qualified as a violation of the obligation to protect the right to health:

> 'the failure to protect consumers […] from practices detrimental to health, […] [and] the failure to discourage […] marketing, and consumption of […] harmful substances'.[279]

This may be interpreted to mean that States are obliged to regulate the marketing of foods and beverages high in free sugars. For States to fulfil their obligations under the right to health, they must protect individuals from marketing strategies and adopt national policies regulating unhealthy food marketing.[280] This obligation is even more serious when it comes to marketing aimed at children. In this context, it has even been submitted that appropriate protection in such cases may amount to an outright prohibition of advertising stimulating children to consume foods high in sugars, sodium and saturated fats.[281]

5. CONCLUSION

The WHO has recognized that '[a]chieving the highest attainable standard of oral health is a fundamental right of every human being'.[282] This status is undisputed: oral health clearly is a matter of human dignity and, therefore, a matter of human rights. However, what the right to oral health practically entails remains unspecified by human rights (treaty) bodies and limitedly researched in academic literature. The above analysis has signalled the relevant dimensions of the right to health, the most fundamental right in the area of public health and identified the legal rights and obligations resulting from this in the context of dental caries. Based on this identification, multiple facets of legal obligations for States to adopt action have been signalled. Given that dental caries is largely preventable through behavioural modifications and scientific findings clearly point out that living environments drive individuals' behaviour, prevention measures at the population level incorporating the underlying determinants to enable all people to make healthier choices are necessary.

278 CESCR GC No. 14 (n 27) para. 51.

279 CESCR GC No. 14 (n 27) para. 51.

280 *Report of the Special Rapporteur on the Right of Everyone to the Enjoyment of the Highest Attainable Standard of Physical and Mental Health, Anand Grover: Unhealthy Foods, Non-Communicable Diseases and the Right to Health* (Geneva: Human Rights Council, 1 April 2014) (hereinafter Special Rapporteur Report (Anand Grover, 2014); CRC GC No. 15 (n 44) para. 47; M Tatlow-Golden and A Garde, 'Digital Marketing to Children: Exploitation, Surveillance and Rights Violations' (2020) 27 Global Food Security 1; K Ó Cathaoir, *Children's Rights and Food Marketing: State Duties in Obesity Prevention* (Intersentia, 2022).

281 Special Rapporteur Report (Anand Grover, 2014) (n 280).

282 WHO GOHAP (n 8).

Table 6. Illustrative representation of the simplified framework of State obligations under the right to health in the context of dental caries

Obligations	Dimensions	Illustrations
Obligation to respect	Refrain from interfering with the enjoyment of the right to health	Refrain from restricting access to oral healthcare facilities, services and goods
		Refrain from adopting discriminatory laws restricting oral healthcare facilities, services, and goods
Obligation to fulfil	Establish a national healthcare system	Ensure medical personnel is skilled
		Ensure non-discriminatory access to health facilities for all
		Establish a healthcare insurance system affordable for all
	Ensure access to essential medicines	Ensure access to fluoride
	Enabling individuals to enjoy their right to health (underlying determinants of health)	Ensure access to nutritionally safe food
		Disseminate of information concerning (oral) health, favourable (oral) health practices, healthy lifestyles and disease prevention
Obligation to protect	Protect individuals from harmful marketing practices	Regulate the marketing of foods and beverages high in free sugars
		When it comes to children, appropriate protection may amount to an outright prohibition of unhealthy food advertising
	Protect individuals' access to oral healthcare from actors in privately regulated oral healthcare systems	Ensure that the provision of (privately provided) health facilities and services is based on the principle of equity and affordable for all
		Provide necessary health insurances, especially to protect the equal treatment of those lacking economic access to health facilities

The simplified model of the obligations under the right to oral health in the context of dental caries introduced in this chapter is shown schematically in Table 6. The model illustrates how a right to health-based approach requires a comprehensive prevention strategy to address dental caries. The human rights General Comments analysed point out that, besides measures related to access to oral healthcare, the adoption of measures addressing the underlying determinants of health, i.e., a more comprehensive prevention strategy, is necessary. However, they do not list concrete measures besides the regulation of the marketing and advertising of unhealthy food products including those high in free sugars, as well as ensuring access to

fluoride. Recommendations by the WHO, such as the upcoming Best Buys in oral health,[283] and previous studies can supplement the General Comments here. Previous research suggests, among other measures, the adoption of a combination of measures, including sugar taxes, food reformulation, food labelling, as well as educational programs.[284]

Given the alarming statistics and the increased attention for oral health, it is time to no longer ignore the right to oral health on the agenda, advocate for upstream policies and bring the discourse to a multidisciplinary platform and audience. It is time to recognize that oral health, and particularly the prevention of dental caries, is a matter of human rights.

283 Landmark global strategy on oral health adopted at World Health Assembly 75' (*World Health Organization*, 2022) <https://www.who.int/news-room/feature-stories/detail/landmark-global-strategy-on-oral-health-adopted-at-world-health-assembly-75> accessed 31 January 2026; H Benzian and S Listl, 'Global public health and the neglect of oral health (2022) 25 Eur J Public Health.

284 Moynihan and Miller (2020) (n 24); M Hernández-F, A Cantoral and M Arantxa Colchero, 'Taxes to Unhealthy Food and Beverages in Mexico: An Observational Study (2021) 55 Caries Res 183.



Chapter 3

Conceptualizing The Child's Right to Oral Health: A Rights-Based Approach to Dental Caries

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1. INTRODUCTION

Oral diseases have been largely neglected in public health legal scholarship, even though they remain the most prevalent NCDs worldwide.[285] Globally, untreated dental caries (tooth decay) poses a substantial NCD burden for children and adults; two billion people have untreated dental caries in permanent teeth and 514 million in primary teeth.[286] The disease is multifactorial, that is, its incidence is connected to a complex set of factors including sugars ingestion, oral hygiene, fluoride exposure and oral health care.[287] If these factors are regulated adequately, dental caries is largely preventable.[288] Dental caries is also associated with health inequities, for example, its occurrence is more common among children of low SES.[289] It has severe short- and long-term consequences;[290] its prevalence in childhood predicts poor oral and general health outcomes in later life, and, via socio-behavioural factors, it presents a high risk of passing caries on to future generations.[291] A failure to address the underlying causes of dental caries fosters and exacerbates existing inequalities.

Oral health is rising on the global agenda, particularly with the WHO's adoption of the Global strategy and action plan on oral health in 2024, which recognizes the right to oral health.[292] Although there is also increasing support for a rights-based approach to oral health in the dental and public health literature,[293] a comprehensive analysis of the right to oral health remains unresolved.[294] A rights-based approach, particularly focusing on children's rights, is pertinent as it can offer a shift from the focus on individual responsibility toward addressing dental caries, particularly its prevention, at a population-level. Accordingly, this chapter conceptualizes children's right to oral health, based on the CRC and the ICESCR.[295] The analysis is restricted to dental caries, one of the main oral conditions in children.[296] First, the background against which the human rights analysis is conducted is described. Subsequently, the chapter analyses how dental caries is a matter of children's rights and requires upstream measures for its prevention. This is followed by an analysis of what comprises a

285 WHO Global Oral Health Status Report (n 8) 9.

286 WHO Global Oral Health Status Report (n 8) 30.

287 K Divaris, 'Predicting Dental Caries Outcomes in Children: A "Risky" Concept' (2016) 95 Journal of Dental Research 248.

288 WHO Global Oral Health Status Report (n 8) 36-7.

289 WHO Global Oral Health Status Report (n 8) 1.

290 WHO Global Oral Health Status Report (n 8) 1.

291 Shearer and Thomson (2010) (n 13); Shearer and others (2011) (n 13).

292 WHO GOHAP (n 8).

293 See, for example Mollet and others (2024) (n 152); Mollet and others (2024) (n 116); Benzian and others (2023) (n 17); Jean and others (2021) (n 25).

294 Mollet and others (2024) (n 116); Jean and others (2021) (n 25).

295 ICESCR (n 26); CRC (n 52).

296 WHO GOHAP (n 8) 49; D Richards 'Oral diseases affect some 3.9 billion people' (2013) 14 Evidence Based Dentistry 25.

children's rights-based approach to addressing risk factors for dental caries, in the context of those factors that can be addressed by laws and regulation, namely: 1) sugars ingestion; 2) oral hygiene; 3) fluoride exposure; and 4) oral health care attendance.

2. BACKGROUND AND METHODOLOGY

The prevention of NCDs is a matter of human rights law;[297] not only does human rights law provide a mechanism to hold governments accountable, the interpretation of rights by treaty bodies can similarly guide the balancing of (legal) measures.[298] Substantively, scholars have extensively analysed human rights in relation to NCD risk factors.[299]

Within the field of public health, including dental public health, a shift from an existing individualized focus toward upstream policies, is simultaneously emerging.[300] Traditionally, dental professionals occupied a central role in the prevention of oral diseases, but it is increasingly recognized that population-level prevention and promotion practices must be strengthened.[301] Consequently, dental researchers have discussed the potential of integrating oral diseases into the NCD agenda.[302] The fact that oral diseases, in this case dental caries, share risk factors with other NCDs provides an opportunity for States to jointly promote oral health and general health through the 'Common Risk Factors Approach'.[303]

297 See, for example, L Gentile, MC Campisi and N Chingore, 'The role of human rights in NCD prevention and control' in N Banatvala and P Bovet (eds) *Noncommunicable diseases – a compendium* (London: Routledge, 2023); S Gruskin, L Ferguson, D Tarantola and R Beaglehole, 'Noncommunicable Diseases and Human Rights: A Promising Synergy' (2014) 104 American Journal of Public Health 773.

298 Patterson and others (2018) (n 119).

299 See, for example, Patterson and others (2018) (n 119); Ó Cathaoir (2022) (n 280); C Slattery, 'Using human rights law to progress alcohol control' (2020) 12 EJRR 444; Constantin and others (2021) (n 129); ME Gispen and B Toebes, *Human Rights and Tobacco Control* (Cheltenham: Edward Elgar, 2020).

300 Watt and others (2019) (n 14).

301 Watt and others (2019) (n 14); WHO GOHAP (n 8) paras. 26-27, Actions 23-33; Moynihan and Miller (2020) (n 24).

302 M Charles-Ayinde, F Cieplik, GH Gilbert and others, 'Acion Needed on Oral Diseases within the Global NCD Agenda' (2025) 104 J Dent Res. 1288; RH Beaglehole and R Beaglehole, 'Promoting radical action for global oral health: integration or independence?' (2019) 394 Lancet 196; Benzian and others (2023) (n 17).

303 WHO GOHAP (n 8) paras. 1, 14, Action 23.

A gap between the two bodies of scholarship – (human rights) law and oral health – remains when it comes to the right to oral health,[304] although a few studies have considered human rights and oral health.[305] For example, Chapter 2 of this dissertation developed a right to health-based approach to dental caries,[306] while Jean and others provide a conceptual study on a rights-based approach to oral health.[307] The latter studies the practical status quo in the area of oral health: is oral health recognized as a human right in existing policies and health systems?[308] Rightfully so, the authors conclude that "[t]he rights status of oral health is not settled".[309] They, however, come to this conclusion following the assumption that "rights only exist when duty bearers accept the obligation to be accountable for progressive right realisation".[310]

In contrast to the above assumption, the present article analyses the right to oral health based on human rights law on paper. Accordingly, the legal value of human rights as understood here arises from the fact that by acceding to and ratifying human rights treaties, States accept the obligations laid out in them.[311] A doctrinal method is adopted to analyse the content of children's right to oral health. The use of the phrase 'the right to' does not imply that the author wishes to invent a novel, autonomous right (*lex ferenda*). Rather, the aim of this chapter is to analyse what children's right to oral health consists of within the context of the ICESCR and CRC specifically.

A common methodological challenge that human rights law scholars encounter concerns the high risk of blurring the distinction between *lex lata* and *lex ferenda* in novel or progressive interpretations, as it inevitably relies on non-binding interpretations and guidance offered by competent treaty bodies.[312] The present article therefore differentiates between hard law and authoritative interpretations. Treaty texts constitute hard law, which is interpreted with authoritative interpretations, namely General Comments, Reports of Special Rapporteurs and Concluding Observations. General Comments offer general interpretative guidance for the rights enshrined in the treaties, while Reports of Special Rapporteurs and Concluding Observations by competent treaty bodies provide guidance for domestic implementation.

304 Mollet and others (2024) (n 116); Jean (2021) (n 24) 4.

305 Mollet and others (2024) (n 116); Jean and others (2020) (n 25) 214; Jean and others (2021) (n 25).

306 Chapter 2 was also published as an article, see Mollet and others (2024) (n 116).

307 Jean and others (2021) (n 25).

308 Jean and others (2021) (n 25).

309 Jean and others (2021) (n 25) 356.

310 Jean and others (2021) (n 25).

311 ICESCR (n 26) preamble; CRC (n 52) preamble.

312 Egan (2018) (n 123); Hesselman (2023) (n 102), 16; Coomans and others (2010) (n 121) 180-186; note also the criticism phrased by Coomans, Grunfeld and Kamminga on pages 183-184.

Finally, WHO reports and scientific literature are similarly used for the interpretation and concretization of the content of rights.[313]

3. DENTAL CARIES AS A MATTER OF HUMAN RIGHTS

The WHO's Global strategy and action plan recognizes that "[a]chieving the highest attainable standard of oral health is a fundamental right of every human being".[314] Human rights treaties do not explicitly recognize this right. However, as oral health is integral to overall health and well-being,[315] it falls within the scope of the right to health, as enshrined in Articles 12 ICESCR and 24 CRC.[316] In line with the interdependence and indivisibility of human rights, the right to oral health goes beyond the domain of health.[317] This corresponds with the social determinants of health, the impact of conditions in which people live and 'wider forces that shape the conditions of daily life' on health, which also asks for health policies to be intertwined with wider (social and economic) policies.[318]

Given that oral health "encompasses psychosocial dimensions, such as self-confidence, well-being and the ability to socialize and work without pain, discomfort and embarrassment",[319] poor oral health, including that associated with dental caries, is a critical matter of social life and functioning, thereby affecting those rights related to the development of children (e.g., Article 6(2) and 27(1) CRC). [320] The impact on the enjoyment of these rights is further exacerbated given that dental caries' incidence is more common among vulnerable groups, including children with low SES, and it fosters existing health inequalities and disparities.[321]

Dental caries limits the full realization of children's right to health. In light of Article 12(2)(c) ICESCR and 24(2)(c) CRC, States are mandated to take measures necessary for the prevention of dental caries.[322] Article 12(2)(a) ICESCR fosters this by requiring the adoption of

313 CRC GC No. 15 (n 44) para. 44. Ó Cathaoir and M Hartlev, 'The child's right to health as a tool to end childhood obesity' in A Garde, J Curtis and O De Schutter (eds), *Ending Childhood Obesity: A Challenge at the Crossroads of International Economic and Human Rights Law* (Cheltenham: Edward Elgar, 2020) 57, 57, 60.

314 WHO GOHAP (n 8) para. 15.

315 WHO GOHAP (n 8) para. 2.

316 ICESCR (n 26) Art. 12; CRC (n 52) Art. 24.

317 CESCR GC No. 14 (n 27) para. 3.

318 WHO Social determinants of health webpage (n 87); WHO GOHAP (n 8) para. 6.

319 WHO GOHAP (n 8) para. 3.

320 DA Verlinden, SA Reijneveld, CI Lanting and others. 'Socio-economic inequality in oral health in childhood to young adulthood, despite full dental coverage' (2019) 127 European Journal of Oral Sciences 248; CRC (n 52) Arts. 6(2), 27(1).

321 Ending Childhood Dental Caries: WHO Implementation Manual (n 11) 7, 8.

322 ICESCR (n 26) Art. 12(2)(c); CRC (n 52) Art. 24(2)(c).

steps to ensure the healthy development of the child.[323] Given that childhood is constitutive for later (oral) health status and that dental caries in childhood has intergenerational and intragenerational effects, it is pertinent to target measures toward children to ensure the enjoyment of the right to health throughout life.[324] Finally, as severe untreated dental caries in children can affect eating, owing to pain, it may lead to underweight and stunting.[325] According to Article 24(2)(c) CRC,[326] States should therefore also consider dental caries as a potential cause of malnutrition.

Further, ICESCR and CRC indicate measures contributing to the fulfilment of the right to health. Articles 12(2)(d) ICESCR and 24(2)(b) CRC, prescribe States to ensure access to health care services in case of need, while Article 24(2)(f) CRC requires the development of preventive health care services.[327] This corresponds with WHO's Global strategy, which has universal health coverage (UHC) at the core of its vision, as ensuring equal access to oral health care services is an important component of effectively addressing dental caries.[328] Yet, the multifactorial nature of the disease, primarily driven by sugars intake, and the associated social and commercial determinants of health, requires a response beyond health care.[329] This is supported by research that demonstrates that an individualized care approach does not suffice for reducing caries incidence in all segments of society.[330] Although the measurable behaviour is that of individuals, the determinants of those behaviours, including social and commercial ones, are largely structural in nature and consequently should be addressed as such. The right to health similarly requires a supplementary focus on upstream, preventive measures addressing the underlying determinants of health, for instance by providing adequate nutritious foods and information (Article 24(2)(c) and (e)).[331]

Poor child oral health, including (severe) dental caries, is also associated with missed school days and reduced academic development, an issue of children's right to education (Article

323 ICESCR (n 26) art. 12(2)(a).

324 Shearer and Thomson (2010) (n 13); Shearer and others (2011) (n 13); CRC GC No. 15 (n 44) paras. 16 and 20; Ruiz and others (2023) (n 42).

325 WHO Global Oral Health Status Report (n 8) 37.

326 CRC (n 52) Art. 24(2)(c).

327 ICESCR (n 26) Art. 12(2)(d); CRC (n 52) Arts. 24(2)(d) and 24(2)(f).

328 WHO GOHAP (n 8) paras. 1, 15-16.

329 WHO GOHAP (n 8) paras. 15, 26-27, actions 23-33; Watt and others (2019) (n 14) 261; WHO Sugars and dental caries webpage (n 8).

330 Verlinden and others (2019) (n 320).

331 ICESCR (n 26) art. 12(2)(c); CRC (n 52) Arts. 24(2)(c) and 24(2)(e).

12(1)(e) CRC).[332] This is especially problematic in light of the increased prevalence of dental caries among persons of low SES and the pertinence of socio-behavioural factors. Accordingly, Article 6(2) CRC, one of the general principles prescribing the right to life and the obligation to ensure the development of children that should be interpreted 'in its broadest sense as a holistic concept',[333] is at stake as well.[334] The best interest of the child, as one of the general principles of the CRC stipulated in article 3 CRC, underpins all the above. As a substantive right, an interpretative principle and a rule of procedure, the best interest principles mandates States to ensure it is applied throughout its processes and to consider the potential impact of all decisions and actions on children's rights and interests.[335] Finally, in fulfilling the above rights and adopting measures, States are mandated to consider children's views in all matters affecting the child (Article 12(1) CRC).[336]

4. A RIGHTS-BASED APPROACH TO ADDRESSING DENTAL CARIES RISK FACTORS

To identify State obligations in the context of children's right to oral health with respect to dental caries, it is important to understand the aetiology of dental caries and its modifiable risk factors. Doing so will inform a rights-based framework to guide the development of dental caries control strategies.

WHO describes dental caries as: "[d]estruction of teeth [which] results when microbial film (plaque) formed on the tooth surface converts the sugars contained in foods and drinks into acids, which dissolve tooth enamel and dentine over time".[337] In other words, frequent sugars consumption modifies the microbial balance of the plaque into one that is cariogenic. This cariogenic plaque is readily able to metabolize sugars, forming acids that dissolve the two dental hard tissues – enamel (the hard outer surface of tooth) and dentine (the layer between

332 MFA Quadri and B Ahmad, 'Elucidating the impact of dental caries, pain and treatment on academic performance in children' (2023) 33 Int. J. Paediatr. Dent. 394; RR Ruff, S Senthi, SR Susser and A Tsutsui, 'Oral health, academic performance, and school absenteeism in children and adolescents: A systematic review and meta-analysis' (2019) 150 J Am Dent Assoc 111; BL Edelstein and S Reisine, 'Fifty-one million: A mythical number that matters' (2015) 146 J Am Dent Assoc 565; WHO GOHAP (n 8). On missed schooldays and reduced academic development in the context of CRC, see CRC (n 52) Art. 28(1)(e); *Concluding Observations: United Kingdom of Great Britain and Northern Ireland* (Committee on the Rights of the Child, 2008) UN Doc. CRC/C/GBR/CO/4 (2008) para. 67(a); *Concluding Observations: Finland* (Committee on the Rights of the Child, 2005) UN Doc. CRC/C/15/Add.272, para. 42.

333 *General Comment No. 5 (2003): General measures of implementation of the Convention on the Rights of the Child* (Committee on the Rights of the Child, 2003) UN Doc. CRC/GC/2003/5 (2003) (hereinafter CRC GC No. 5) para. 12; N Peleg, *Perspectives on the Right to Development* (Cambridge, CUP, 2019) 130.

334 Note that the Convention itself does not explicitly enshrine the right to development, but it has been suggested that the Convention implicitly recognizes its existence, Peleg (2019) (n 321) 83, 97; CRC GC No. 5 (n 321) para 12.

335 *General comment no. 14 (2013) on the right of the child to have his or her best interests taken as a primary consideration* (Committee on the Rights of the Child, 2013) UN Doc. CRC/C/GC/14 para. 6.

336 CRC (n 52) Art. 12(1).

337 Ending Childhood Dental Caries: WHO Implementation Manual (n 11) v.

enamel and the dental pulp) – leading to carious lesion development.[338] To prevent caries, the creation and persistence of these acids must be interrupted.

Reducing the risk of caries development involves a combination of factors.[339] Given the primary role of sugars and their pathological influence on the dental plaque microbiota in dental caries development, it is important that the amount and frequency of sugars ingested are limited.[340] Dental plaque, which builds up on tooth surfaces, needs to be regularly removed by brushing with a fluoride toothpaste and interdental cleaning, thereby removing the cariogenic plaque (if present) and limiting the time it is present on the tooth surface.[341] Exposure to low levels of fluoride, either through toothpastes or community water fluoridation, strengthens the resistance of enamel to demineralization (dissolution or cavity formation).[342] Oral health practitioners play an important role in preventing and managing dental caries– by identifying a patient's risk of developing dental caries, arresting existing carious lesions, that is, halting the progression of active carious lesions or treating carious lesions with restorations or extractions.[343].

The remainder of this section is structured according to the aforementioned risk factors that can be addressed by laws and policies, including (1) sugars ingestion; (2) oral hygiene; (3) fluoride exposure; and (4) the dental health care system.

4.1 Free sugars ingestion

Sugars ingestion is a key risk factor for dental caries;[344] limiting the frequency and amount of sugars ingested curbs the development of cariogenic biofilm and in turn significantly lowers dental caries risk.[345] Dental caries development is fuelled by all dietary sugars,[346] nevertheless, it is important to distinguish between free sugars and intrinsic sugars. WHO considers free sugars as nonessential nutrients, being linked to the incidence of a number of NCDs, including dental caries, and their intake encourages further consumption.[347] Consequently, WHO strongly recommends reducing their intake to less than 10% of total energy intake.[348]

338 Ending Childhood Dental Caries: WHO Implementation Manual (n 11) 7.

339 Divaris (n 287).

340 Ending Childhood Dental Caries: WHO Implementation Manual (n 11) 16.

341 Lee (2013) (n 31) 108.

342 Ending Childhood Dental Caries: WHO Implementation Manual (n 11) 19.

343 Ending Childhood Dental Caries: WHO Implementation Manual (n 11) 23-27.

344 WHO Global Oral Health Status Report (n 8) 37.

345 P Moynihan and PE Petersen, 'Diet, nutrition and the prevention of dental diseases' (2004) 7 Public Health Nutrition 201, 202.

346 Ending Childhood Dental Caries: WHO Implementation Manual (n 11) 7.

347 *Sugars Factsheet* (Copenhagen: World Health Organization, 2022) 3.

348 WHO Sugars Guideline (n 20) 4.

Intrinsic sugars are those naturally present in whole fresh fruits and vegetables,[349] and are recommended as part of a healthy diet.[350]

The right to health and the right to an adequate standard of living, including adequate food (hereinafter the right to adequate food) can inform upstream measures to address sugars consumption.[351] As signatories, States must adopt measures to prevent NCDs, including those related to diet.[352] The progressive realization of the right to adequate food implies that obligations stretch beyond ensuring 'a minimum package of calories, proteins and other specific nutrients'.[353] In fact, nutrition is among the key determinants of children's health and the right to health mandates States to ensure the provision of adequate nutritious foods and combat malnutrition.[354]

The obligations under the right to health in this context are various. The obligation to respect the right to health can be interpreted to mean that States should not act in a manner that is likely to result in preventable, diet-related morbidity and mortality, by, for example, incentivizing the consumption of unhealthy products.[355] The obligation to protect requires States to regulate the activities of industries whose practices may be detrimental to their health.[356] The CESCR classifies the failure to protect consumers from practices detrimental to health by food manufacturers as a violation of this obligation.[357] Following the obligation to fulfil, individuals must be assisted with, among other things, the provision of nutritiously safe food and information.[358]

More particularly, 'sugars' have been addressed explicitly, especially in relation to food environments. For instance, the CRC Committee refers to sugars once in its General Comment No. 15, stating that: "[c]hildren's exposure to ''fast foods" that are high in (…) sugar (…) should be limited".[359] Its marketing should also be regulated and its availability in schools limited.[360] The CRC Committee also refers to the substance in its Concluding Observations to Tonga in 2019, suggesting to 'discourage school canteens from serving "fizzy" drinks, junk

349 WHO Sugars Guideline (n 20) 7.

350 WHO Sugars Guideline (n 20) 7; RH Lustig, LA Schmidt and CD Brindis, 'The toxic truth about sugar' (2012) 482 Nature 27, 27.

351 ICESCR (n 26) Arts. 11 and 12.

352 ICESCR (n 26) Art. 12(2)(c); Special Rapporteur Report (Anand Grover, 2014) (n 280) para. 13.

353 General Comment No. 12: The Right to Adequate Food (Art. 11 of the Covenant) (Committee on Economic, Social and Cultural Rights, 1999) UN Doc. E/C.12/1999/5 paras. 6, 16.

354 CRC GC No. 15 (n 44) para. 18; CRC (n 52) Art. 24(2)(c); CESCR GC No. 14 (n 27) para. 36.

355 Special Rapporteur Report (Tlaleng Mofokeng, 2023) (n 125) paras. 34 and 50.

356 CESCR GC No. 14 (n 27) para. 35.

357 CESCR GC No. 14 (n 27) para. 51.

358 CESCR GC No. 14 (n 27) para. 36-37.

359 CRC GC No. 15 (n 44) para. 47.

360 CRC GC No. 15 (n 44) para. 47.

food and food high in sugar'.[361] Finally, the Special Rapporteur on the right to health, Tlaleng Mofokeng, directly signals the increased presence of, among other substances, sugars in food systems and food environments as drivers of health, and connects it explicitly to NCDs.[362]

Specific measures that have been suggested or identified as good practices by Special Rapporteurs and in General Comments in the context of food include sugar(-sweetened beverage) taxes,[363] several types of advertising and promotion measures or bans,[364] mandatory (front-of-pack) labelling measures,[365] fiscal measures and procurement policies to incentivize the agricultural production of, among other products, vegetables and fruits,[366] establishing health-related requirements for investments by transnational companies,[367] limiting the availability of products in schools,[368] and involving schools in health strategies.[369] In this regard, it must be highlighted that a number of these structural measures are at no or a relatively low cost for States and contribute to the realization of the right to health. In fact, a number of them, such as front-of-pack labelling requirements as part of comprehensive nutrition labelling policies, are recommended by the WHO as cost-effective interventions to address NCDs.[370] In the context of dental caries specifically, the WHO recommends 'implementation of a policy to tax sugar-sweetened beverages (SSBs) as a cost-effective fiscal policy measure to reduce sugar consumption intake and body weight and dental caries'.[371] In light of the *attainability* of the right to health,[372] these measures should thus be prioritized.

4.2 Oral hygiene

Oral self care – toothbrushing and interdental cleaning – is crucial in maintaining a favourable oral environment; doing so removes the build-up of dental plaque. Apart from the question of which policy tools are available to States to regulate hygiene practices, it is important

361 *Concluding Observations: Tonga* (Committee on the Rights of the Child, 2019) UN Doc. CRC/C/TON/CO/1 para. 48(g).

362 Note that caries was not explicitly listed as one of the NCDs, Special Rapporteur Report (Tlaleng Mofokeng, 2023) (n 125) paras. 22-31.

363 Special Rapporteur Report (Tlaleng Mofokeng, 2023) (n 125) paras. 89-90; Special Rapporteur Report (Anand Grover, 2014) (n 280) para. 19.

364 Special Rapporteur Report (Tlaleng Mofokeng, 2023) (n 125) paras. 77-78; Special Rapporteur Report (Anand Grover, 2014) (n 280) paras. 21-22, 25; CRC GC No. 15 (n 44) para. 47.

365 Special Rapporteur Report (Tlaleng Mofokeng, 2023) (n 125) para. 73; Special Rapporteur Report (Anand Grover, 2014) (n 280) para. 18.

366 Special Rapporteur Report (Anand Grover, 2014) (n 280) para. 19, 20.

367 Special Rapporteur Report (Anand Grover, 2014) (n 280) para. 26.

368 CRC GC No. 15 (n 44) para. 47; Special Rapporteur Report (Anand Grover, 2014) (n 280) para. 25.

369 CRC GC No. 15 (n 44) para. 46; Special Rapporteur Report (Anand Grover, 2014) (n 280) para. 18.

370 In the case of front-of-pack labelling, this also has a quick public health impact, Galea and others (2025) (n 80) 4.

371 *Sugars and dental caries: WHO technical information note, May 2025* (Geneva: World Health Organization, 10 July 2025) 1.

372 ICESCR (n 26) Art. 12.1.

to first consider the extent to which State obligations stretch here: can a State step into the bathroom and address children's brushing habits through legal interventions?

Articles 5 and 18 of CRC provide guidance in this regard. Article 5 prescribes a hands-off approach and stipulates that States must respect the responsibilities, rights and duties of parents in guiding their children in the exercise of their rights.[373] Article 18(2) CRC sets out that States have to provide 'appropriate assistance to parents and legal guardians in their child-rearing responsibilities', to guarantee the rights enshrined in the Convention.[374] In other words, States must strike a balance: they have to respect, and thereby not interfere with, the relationship between caregivers and children, while providing those caregivers with the means, such as funds and information, to ensure that children grow up in a manner that assures the furtherance of their rights.

Substantively, the right to health, along with the rights to information, and education (Articles 24, 13 and 29(1)(a) CRC), informs measures addressing oral hygiene as a risk factor for poor child oral health. Article 24(2)(e) CRC explicitly stipulates that, in pursuing the full implementation of children's right to health, States must adopt measures'[t]o ensure that [parents and children] are *informed, have access to education and are supported* in the use of basic knowledge of (…) hygiene'.[375] Under the obligation to fulfil (facilitate) the right to health, States must make an effort to 'enable and assist individuals and communities to enjoy the right to health'.[376] The provision of information as a public health intervention corresponds with the balance between Articles 5 and 18 CRC above.[377] The information provided should be physically accessible, understandable and appropriate to children's age and educational level.[378] The CRC Committee's General Comment No. 15 suggests that such information is communicated via school curriculums, health services and in other contexts for children that do not attend school.[379] Parents should be informed via multiple channels, including media and public information leaflets.[380]

4.3 Fluoride exposure

Fluoride mitigates caries lesion formation, as it favours remineralization of the enamel and dentine, providing resistance against acids. Fluoride can be provided by brushing with a fluo-

373 CRC (n 52) Art. 5.

374 CRC (n 52) Art. 18(2).

375 Emphasis added. CRC (n 52) Art. 24(e).

376 CESCR GC No. 14 (n 27) para. 37.

377 CRC (n 52), arts. 5 and 18. See also Nuffield Council on Bioethics, *Public health: ethical issues* (Cambridge: 2007) xix.

378 CRC GC No. 15 (n 44) para. 58.

379 CRC GC No. 15 (n 44) para. 59.

380 CRC GC No. 15 (n 44) para. 61.

ride toothpaste, receiving professionally applied fluoride treatments or through fluoridated community water supplies, dietary salt or milk.[381]

Fluoride qualifies as an essential medicine in its topical version. Fluoride-containing dental preparations have been added to the 22nd WHO Model List of Essential Medicines (EML) and the 8th WHO Model List of Essential Medicines for Children in 2021.[382] This reinforces the framing of fluoride exposure as a matter of human rights law: qualifying as an essential medicine, its provision belongs to the core content of the right to health.[383] This means that this obligation is not to be realized progressively: rather, non-compliance with the obligation to make essential medicines available and accessible amounts to a violation of the right to health.[384]

Community water fluoridation has proven to be successful and has been rated as one of the ten greatest public health interventions by the United States' Center for Disease Control and Prevention.[385] As a population measure it provides safe and equitable access to all and can in turn reduce oral health inequalities.[386] In this form, fluoride is a non-essential nutrient, which means that its intake is not needed for the body to perform essential physiological functions.[387] It must also be noted that excessive intake of fluoride, for example in contexts where fluoride is naturally present in water or food, can potentially be harmful.[388] In this regard, the AAAQ framework offers guidance for fluoride provision: it must be (1) available; (2) physically and economically accessible in a non-discriminatory fashion; (3) culturally and ethically acceptable; and (4) medically appropriate and of good quality.[389]

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381 Ending Childhood Dental Caries: WHO Implementation Manual (n 11) 19-20. Note that systems adopting salt fluoridation should be in line with the WHO guideline on sodium intake, *Guideline: Sodium intake for adults and children* (Geneva: World Health Organization, 2012).

382 8th WHO Model List of Essential Medicines for Children (n 249); 22nd WHO Model List of Essential Medicines (n 249). They still remain on the list of 2025, 10th Model List of Essential Medicines for Children (n 249); 24th WHO Model List of Essential Medicines (n 249).

383 CESCR GC No. 14 (n 27) para. 43(d).

384 CESCR GC No. 14 (n 27) paras. 43, 44 and 47; CRC GC No. 15 (n 44) para. 73(b).

385 'Ten Great Public Health Achievements – United States, 1900-1999' (*CDC*, 2 April 1999) <https://www.cdc.gov/mmwr/preview/mmwrhtml/00056796.htm> accessed 18 March 2026.

386 Ending Childhood Dental Caries: WHO Implementation Manual (n 11) 19; J.A. Atkinson, J.M. Jackson, G. Lowery and others, 'Community water fluoridation and the benefits for children' (2023) 50 Dental Update 565; 'CDC Scientific Statement on Community Water Fluoridation' (*CDC*, 15 May 2024) <https://www.cdc.gov/fluoridation/about/statement-on-the-evidence-supporting-the-safety-and-effectiveness-of-community-water-fluoridation.html > accessed 18 March 2026.

387 *Scientific Opinion on Dietary Reference Values for fluoride* (Parma: European Food Safety Authority, 2013) *EFSA Journal* 11/8 (2013) 2-3.

388 'Chemical Safety and Health' (*World Health Organization*) <https://www.who.int/teams/environment-climate-change-and-health/chemical-safety-and-health/health-impacts/chemicals/inadequate-or-excess-fluoride> accessed 26 August 2025.

389 CESCR GC No. 14 (n 27) para. 12.

The right to health offers discretion as to its precise implementation.[390] Rather, the standard set under the CRC and the ICESCR pledges that nutrients and medicines, including fluoride, must be administered (medically) appropriately.[391] This implies that States' obligations include providing appropriate amounts of fluoride, for which there are guidelines.[392] In this regard, the obligation of States stretches to guarantee the rational and appropriate dispensation, sale and usage of essential medicines so as to prevent adverse health effects.[393] The decision on the exact method of fluoride delivery is left to the State. In addition to this, individuals in all segments of society should be informed about the importance of fluoride exposure, the means of such exposure and be supported in making informed decisions about fluoride and their health.[394]

4.4 Oral health care

Health care plays a multifaceted role in caries management, ranging from preventive care to curative treatment.[395] In many countries, however, unmet needs for dental care still remain. This is related to, among other factors, limited coverage of dental care (for adults), thereby leaving oral health care attendance dependent on individuals' financial means,[396] unequal distribution of the oral health care workforce,[397] and a preference for technology-based curative treatment.[398]

The right to health similarly reflects these roles.[399] Primarily, the obligation to fulfil the right to health mandates States to ensure the provision of health care.[400] There are multiple general factors that established health care systems must comprise, including the AAAQ-requirements and the appropriate training of health care workers.[401] In addition, especially when it comes to children, the health care system should not only encompass curative services, but also 'prevention, promotion, treatment, rehabilitation and palliative care services'.[402]

390 CESCR GC No. 14 (n 27) para. 53.

391 CESCR GC No. 14 (n 27) para. 12(d).

392 'Dental Caries (Cavities): Community Water Fluoridation' (*The Community Guide*, April 2023) <https://thecommunityguide.org/findings/dental-caries-cavities-community-water-fluoridation.html > accessed 18 March 2026.

393 Special Rapporteur Report (Anand Grover, 2014) (n 280) paras. 57-60.

394 CRC (n 52) art. 24(2)(e); CESCR GC No. 14 (n 27) para. 37.

395 Ending Childhood Dental Caries: WHO Implementation Manual (n 11) 23-27.

396 WHO GOHAP (n 8) para. 8; Winkelmann and others (2022) (n 272) 18-19.

397 Winkelmann and others (2022) (n 272) 19.

398 Winkelmann and others (2022) (n 272) 19.

399 CRC (n 52) art. 24(2)(f); CESCR GC No. 14 (n 27) para. 17.

400 CESCR GC No. 14 (n 27) para. 36.

401 CESCR GC No. 14 (n 27) paras. 12 and 36.

402 CESCR GC No. 14 (n 27) para. 25.

The right to health requires appropriate allocation of resources to prevent overt and covert forms of discrimination.[403] It is pertinent to note that the CESCR stipulates that 'investments should not disproportionately favour expensive curative health services (…) often accessible only to a small, privileged fraction of the population, rather than primary and preventive care, benefiting a far larger part of the population.'[404] NCDs should also be addressed in preventive health care services, integrating a combination of biomedical, behavioural and structural interventions.[405]

Many countries face difficulties ensuring access to oral health care for all and lacking oral health UHC is signalled as a main concern in debates on oral health.[406] Considering the large number of countries in which oral health care services are provided by private parties and expenses are covered by out of pocket payments, the obligations concerning economic accessibility of health care facilities and services, alternatively known as affordability, under the right to health must be highlighted.[407]

The child's right to health is clear: universal access to primary health care services, into which oral health care should be integrated,[408] for children should be of primary concern and the inability to pay should not result in denial of the child's right of access to health care.[409] Payment for such services should still be based on the principle of equity, so that they remain affordable for all.[410] Accordingly, States have a special obligation to ensure that those with insufficient (financial) means have the necessary health insurance and that this is affordable for all.[411] In establishing such a system, States must make use of risk-pooling mechanisms that rely on equitable, means-based contributions.[412] Regardless of whether the insurance system is of public, private or mixed nature, the responsibility remains with States to ensure its affordability.[413]

Finally, besides universal access to health care facilities and services, and the further requirements of health care provision, the right to health also provides guidance concerning the environment in which health care is provided. In this regard, States should create an environment in which children and parents are enabled and encouraged to adopt health-seeking

403 CESCR GC No. 14 (n 27) para. 19.

404 CESCR GC No. 14 (n 27) para. 19.

405 CESCR GC No. 14 (n 27) para. 62.

406 Winkelmann and others (2022) (n 272); WHO GOHAP (n 8) para. 1, 11; J. Winkelmann, S. Listl, E. van Ginneken, 'Universal health coverage cannot be universal without oral health' (2023) 8 Lancet Public Health e8.

407 Winkelmann and others (2022) (n 272).

408 WHO GOHAP (n 8) paras. 17, 30, Actions 4, 17, 58, 62.

409 CRC GC No. 15 (n 44) paras. 29, 36.

410 CESCR GC No. 14 (n 27) para. 12(b).

411 CESCR GC No. 14 (n 27) paras. 19 and 36.

412 CRC GC No. 15 (n 44) para. 114.

413 CESCR GC No. 14 (n 27) para. 36.

behaviour.[414] This environment ranges from the availability of services to levels of health knowledge.[415] An example of such a stimulating environment includes the provision of health services within schools, to promote health-seeking behaviour.[416]

5. CONCLUSION

Child oral health and the prevention of dental caries has clear human rights dimensions. Oral health is an integral component of general health and affects children's current and future health, and development. This makes it a crucial component in ensuring the fulfilment of multiple rights. Reflecting on the analysis on State obligations to address risk factors, the need for upstream measures stands out, especially given resource restraints in many States. On the one hand, the current barriers to realizing the right to oral health care and its associated costliness indicate the shortcomings of policies primarily focused on oral health care. On the other hand, upstream measures, such as implementing a sugar tax, requiring front-of-pack labelling or restricting advertising can be implemented at no or a lower cost. The adoption of an upstream approach thus increases the attainability of the right to health, which increases the stringency of obligations arising from the right to health.

Table 7 summarizes a proposed children's right to oral health framework. The framework proposed in this chapter can be used by policy makers, advocates and researchers to further public oral health, particularly in the context of dental caries as a disease. It can also serve as a legal foundation of children's right to oral health, based on which other (upstream) issues can be tackled in future research. Additionally, it can inform further research on rights-based approaches to oral diseases, other NCDs in general, and associated risk factors. The rights identified can serve as legal tools to hold policy-makers accountable and inform policy-practice in the field of oral health and childhood caries.

Human rights, especially children's rights, can inform the development of a comprehensive approach to addressing dental caries' incidence and risk factors, importantly, supplementing the current individualized approach with upstream measures.

414 CRC GC No. 15 (n 44) para. 30.

415 CRC GC No. 15 (n 44) para. 30.

416 CRC GC No. 15 (n 44) para. 36.

Table 7. The child's right to oral health: a framework

Rights affected by dental caries incidence			
Issue caused by/related to dental caries	Connected provision(s)	State obligations (non-exhaustive)	
Consequences for (oral and general) health	The best interest of the child *Article 3 CRC* The right to health *Articles 24(1) CRC and 12(1) ICESCR* The right to development *Articles 6(1), 27(1) CRC and 12(2)(a) ICESCR*	- Prevent diseases, including dental caries; - Ensure the highest attainable standard of (oral) health over the life course by addressing dental caries risk factors during childhood; - Address caries as a potential cause of undernutrition; - Ensure the healthy development of children; - Inform all segments of society about child health and nutrition.	
Impact on personal life and inequalities	The best interest of the child *Article 3 CRC* The right to development *Articles 6(2), 27(1) CRC and 12(2)(a) ICESCR* The right to health *Articles 24 CRC and 12(1) ICESCR* The right to education *Articles 28(1)(e) and 29(1)(a) CRC*	- Ensure the development of children and provide for an adequate standard of living for the child's development; - Take measures to encourage regular attendance at schools.	
Rights that can inform dental caries prevention policies			
Risk factor	Relevant provisions	State obligations	Illustrative policies (non-exhaustive)
Sugars consumption	The right to health *Articles 24(1), 24(2)(c), 24(2)(e) CRC and 12(1), 12(2)(a) and 12(2)(c) ICESCR* The right to adequate food *Article 24(2)(c) CRC and 11(1) ICESCR*	- Combat malnutrition and ensure the provision of nutritious food; - Disseminate information concerning lifestyle and nutrition, also in relation to oral health.	- Sugar taxes; - Advertising and promotion measures or bans of products high in sugars; - School health strategies; - Front-of-pack nutrition labelling.

Table 7. The child's right to oral health: a framework (*continued*)

Rights that can inform dental caries prevention policies			
Oral hygiene	Responsibilities of primary caregivers and states *Article 5 and 18 CRC* The right to information *Article 13 CRC* The right to health *Articles 24(1), 24(2)(e) CRC and 12(1), 12(2)(a) and 12(2)(c) ICESCR* The right to education *Article 29(1)(a)*	- Assist parents and legal guardians in their child-rearing responsibilities; - Respect freedom of parents and legal guardians in raising their children; - Ensure parents and children are informed about (oral) hygiene practices.	- Inform children about oral hygiene via school curriculums, health services and contexts for children that do not attend school; - Inform parents in multiple ways, for example via media and public information leaflets.
Fluoride exposure	The right to health *Articles 24(1), 24(2)(f) CRC and 12(1), 12(2)(a) and 12(2)(c) ICESCR*	- Ensure AAAQ of essential medicines, including fluoride; - Support individuals to make informed decisions about their health.	- Ensure appropriate access to fluoride exposure, either topical or systemic; - Provide information on the effects of fluoride exposure.
Dental attendance	The right to health *Articles 24(1), 24(2)(b), 24(2)(f) CRC and 12(1), 12(2)(a) and 12(2)(c) ICESCR*	- Provide preventive and curative oral health care services and ensure they meet the AAAQ-requirements, particularly affordability; - Create an environment in which health-seeking behaviour is encouraged.	- Put an affordable (oral) health care system in place, including preventive services; - Provide (oral) health services within schools, to promote health-seeking behaviours

PART II

INTERFACE II – LAW AS A DETERMINANT OF FOOD ENVIRONMENTS: MULTI-LEVEL CONSIDERATIONS

The chapters of this part focus on the relation between law and food environments. It goes beyond the context of (free) sugars alone but fits within the overall line of reasoning (or stated differently, the presumptions) adopted in this dissertation: food environments influence diets via consumer behaviour. Diets have an impact, together with other factors, on health outcomes, including the incidence of chronic diseases. Although there are limitations to the evidentiary support on the impact of food environments,[417] the dissertation persists to follow the line of reasoning as introduced in the introductory chapter of this dissertation. The chapters in Part II aim to answer the question: *How can law (in its general sense) address or determine (healthy) food environments, particularly for their impact on dietary choices including sugars consumption as a driver of dental caries?* As articles to be submitted for publication, the chapters aim to inform a legal audience about the relevance and potential their expertise has in promoting public health. Chapter 4 was drafted with co-authors with expertise in public health, namely Joao Costa Leite and Jan Wollgast.

Abstracts and key words

Chapter 4 - Multi-Level Laws as a Determinant of (Un)Healthy Food Environments in Europe: Food for Thought[418]

Food environments, 'the physical, economic and sociocultural contexts in which consumers make decisions about acquiring, preparing and consuming food', impacts what and how people eat. It encompasses pillars including food retail, food labelling, food promotion and food prices. It is largely constituted by law, and laws shaping food environments constitute an important component of NCD prevention policies. Accordingly, through food environments, policymakers can greatly impact population health, positively or negatively. This chapter illustrates how food environments are constructed by law in the European multi-level system, including the international, regional (Europe), domestic and local levels. The chapter differentiates between norm-setting laws, laws that are normative to the system and can as such inform laws and policies shaping food environments, and measure-setting laws, laws that dictate the concrete shapes of food environments.

Key words: food environment, law, non-communicable diseases, European Union

417 Mackenbach and others (2022) (n 61) 606.

418 This chapter was co-authored with Joao Costa Leite and Jan Wollgast as an article intended for publication in a (global) health law journal.

Chapter 5 – A Human Rights-Based Approach to Food Advertising in the Netherlands: Turning a Swiss Cheese ino a Firm Gouda?

This article assesses the inclusiveness of Dutch HFSS food advertising regulation in light of the rights to health and food under the ICESCR and CRC on three accounts, namely the actors involved in regulating, the groups protected by the regulation, and the media sources regulated. It finds that the current regulatory system is underinclusive in comparison to the standards identified in the human rights framework on all three accounts, as the self-regulatory nature of the system does not allow for adequate protection of public health interests, which also translates to the level of public health protection guaranteed in the food advertising rules, and it comes with limited enforcement competences; it does not adequately protect adults from food advertising, and different groups of children to different degrees depending on their ages; and the system does not adequately extend protection to the online environment. The rights to health and food can offer the Dutch government guidance in revising the regulatory system – something that has been proposed and requested several times in recent years.

Key words: Food advertising; non-communicable disease prevention; right to health; right to food; Nederlandse Reclame Code



Chapter 4

Multi-Level Laws as a Determinant of (Un)Healthy Food Environments in Europe: Food for Thought[419]

419 This chapter was co-authored with Joao Costa Leite and Jan Wollgast as an article for publication in a (global) health law journal.

1. INTRODUCTION

Food environments, 'the physical, economic, political and socio-cultural contexts in which consumers make decisions about acquiring, preparing and consuming food',[420] can play an important role in one of the major current global health pandemics: obesity and NCDs.[421] The importance of food environments is also reflected in the '5x5 NCD Agenda', which targets the five major NCDs (cardiovascular diseases, cancer, diabetes, chronic respiratory diseases and mental health (suicide)) and their five main risk factors (tobacco use, unhealthy diets, harmful use of alcohol, physical inactivity and air pollution).[422] The incidence of many diseases, including those highlighted in the 5x5 agenda, as well as obesity and (untreated) dental caries, the most common NCD globally,[423] is associated with unhealthy diets.[424] It is widely recognized that food environments have an impact on people's behaviours related to food,[425] and, as such, can impact health outcomes.[426] Accordingly, optimal 'design' of food environments constitutes an important component of NCD strategies.

This chapter aims to conceptualize the interplay of different areas of law at different levels that jointly shape food environments – combined with other factors (determinants). It maps how laws play a role in addressing unhealthy diets in NCD strategies through the regulation of food environments. Particularly, it sets out how law informs and shapes food environments in different manners, namely by setting norms and setting measures, and at multiple levels, namely at the international, regional, domestic and local levels.[427] It does so by combining and building on previous studies in the research areas of public health and law.

420 HLPE (n 53) 28.

421 Burgaz Van Dam, Garton and others also mention undernutrition and food security, and climate change and biodiversity as other major global health pandemics for which (sustainable) food systems can play an important role, C Burgaz, I Van Dam, K Garton and others, 'Which government policies to create sustainable food systems have the potential to simultaneously address undernutrition, obesity and environmental sustainability?' (2024) 20 Globalization and Health 1.

422 Follow-up to the political declaration of the third high-level meeting of the General Assembly on the prevention and control of non-communicable diseases (n 16) para. 6.

423 WHO Sugars and dental caries webpage (n 8).

424 'Noncommunicable diseases' (*World Health Organization*) <https://www.emro.who.int/noncommunicable-diseases/causes/unhealthy-diets.html> accessed 9 May 2025.

425 See, for example, B Butland, S Jebb, P Kopelman and others, *Foresight – Tackling Obesities: Future choices – Project report* (Government Office for Science, 2 edn, 2007) 49-59; Hawkes and others (2015) (n 129); K Neve, C Hawkes and J Brock, *Understanding Lived Experience of Food Environments to Inform Policy: An Overview of Research Methods* (London: Centre for Food Policy, City, University of London, 2021).

426 On the association between community food environments and health outcomes in high income countries see, for example, AD Gembremariam, K Kent and K Charlton, 'The Association between Community Food Environments and Health Outcomes in High-Income Countries: A Systematic Literature Review' (2025) 14 Current Nutrition Reports 1.

427 Note that in the European context, Member States may have different constitutional structures, the reason for which certain legislation can be adopted at the domestic level in some Member States, while in other Member States this is adopted at a local level. Note that also local levels are also not homogenous in all Member States.

The section below first introduces the theoretical framework at the core of the chapter: what are food environments and how are they theoretically a matter of law? Then, it concretizes how law determines the shape of food environments at different levels (international, regional (EU), domestic and local) in practice – it does so in a non-exhaustive manner, providing examples of how laws at different levels shape food environments in different ways, and with a stronger focus on the international and regional levels. How laws have an impact on food environments is presented in a twofold manner. On the one hand, certain laws, like human rights treaties and constitutions, require a high level of health protection and adequate food provision. In terms of norm-proximity, this type operates at a macro-level. They exist at a larger distance from the environment in which subjects of food environments, individuals, concretely make dietary decisions. These are characterised as *norm-setting* laws. On the other hand, laws that concretely regulate food environments, such as advertising rules and (local) laws addressing spatial planning, are characterised as *measure-setting* laws. In terms of norm-proximity, these laws operate at a micro-level and are closer to dietary decisions. They have a more direct impact on actors that shape food environments with their commercial practices, such as the food industry.

Although the chapter considers international, regional (EU), domestic and local levels, its focus is primarily the EU's context. The EU, as a regional organization, has a special role in shaping food environments in its Member States, as it can adopt laws binding to its Member States in its entirety or in its objectives in some areas and, as such, sometimes directly has an impact on food environments in its Member States. Although the approach adopted in this chapter is also of relevance in other parts of the world, the role of the EU as a highly integrated regional economic integration organization is specific to the EU's context. Additionally, although the present chapter is limited to the role of law in food environments from a public health perspective, laws also play an important role in creating sustainable food environments. Sustainability considerations are, however, not addressed in this chapter. A similar analysis as the one presented in this chapter can equally be conducted in light of sustainability considerations. Finally, instead of mapping all relevant laws at multiple levels that construct food environments in Europe, this chapter is reflective and non-exhaustive in nature and rather relies on examples of how different laws at different levels construct food environments.

2. FOOD ENVIRONMENTS: SHAPED BY LAW

Several initiatives have developed theoretical frameworks to help conceptualize and understand food environments, thereby allowing for the theorization and evaluation of structural factors that have an impact on what and how people eat.[428] This chapter highlights the

428 See, for example, Downs and others (2020) (n 64) 532.

definitions of the HLPE,[429] the NOURISHING framework developed by the World Cancer Research Fund International,[430] the framework provided by the INFORMAS study,[431] and the model presented by Downs and others.[432] Although these frameworks identify different (numbers of) categories of which food environments consist, their content is consistent.

2.1 Food environments as a theoretical framework

According to the HLPE, food environments are one of the three core components of which food systems consist, besides food supply chains and consumer behaviour.[433] The Panel defines food environments as 'the physical, economic, political and socio-cultural context in which consumers engage with the food system to make their decisions about acquiring, preparing and consuming food'.[434] It recognizes that the elements of food environments that have the biggest impact on consumer food choices are: the physical access to food (proximity); economic access to food (affordability); food promotion, advertising and information; and food quality and safety.[435]

The NOURISHING policy framework of the World Cancer Research Fund International was developed to help governments address NCDs by promoting healthier diets.[436] It covers ten evidence-informed policy areas that can collectively (positively) influence dietary habits and health outcomes.[437] The ten policy areas are spread over three domains, namely food environments (NOURIS), food systems (H) and behavior change communication (ING).[438] The six domains that belong to food environments are: '[n]utrition label standards and regulations on the use of claims and implied claims on food' (N);[439] '[o]ffer healthy food and set standards in public institutions and other specific settings' (O);[440] '[u]se economic tools to address food affordability and purchase incentives' (U);[441] '[r]estrict food advertising and other forms of commercial promotion' (R);[442] '[i]mprove nutritional quality of the whole food supply' (I);[443] and '[s]et incentives and rules to create a healthy retail and food service environment' (S).[444]

429 HLPE (n 53)
430 Hawkes and others (2013) (n 129)
431 Swinburn and others (2013) (n 63).
432 Downs and others (2020) (n 64).
433 HLPE (n 53) 22.
434 HLPE (n 53) 28.
435 HLPE (n 53) 26, 28.
436 Hawkes and others (2013) (n 129) 160.
437 Hawkes and others (2013) (n 129) 160.
438 Hawkes and others (2013) (n 129) 160.
439 Hawkes and others (2013) (n 129) 160.
440 Hawkes and others (2013) (n 129) 160.
441 Hawkes and others (2013) (n 129) 160.
442 Hawkes and others (2013) (n 129) 160.
443 Hawkes and others (2013) (n 129) 160.
444 Hawkes and others (2013) (n 129) 160.

INFORMAS has defined food environments as 'the collective physical, economic, policy and sociocultural surroundings, opportunities and conditions that influence people's food and beverage choices and nutritional status'.[445] This study sets up a standardized monitoring framework allowing researchers to monitor aspects of food environments over time and place using multiple indices.[446] One of the indices particularly singles out government action (Government Healthy Food Environment Policy Index (Food-EPI)), which in turn consists of seven policy domains and seven domains of infrastructure support.[447] The seven policy domains consist of: food composition; food labelling; food promotion; food provision; food retail; food prices; and food trade and investment.[448]

Inherent to INFORMAS' division into policy domains as components to systematically monitor food environments is the recognition that policies, and thereby law, shape food environments. In fact, the study recognizes that '[g]overnments, at international, national and subnational levels, through their *policies*, *laws and regulations*, provide the 'rules' within which the private sector must operate'.[449] It thereby awards a central role to governments to 'ensure that food environments are as healthy as possible, and encourage citizens to make healthy food choices',[450] as they are 'in a position to take interventionist actions when the market fails to deliver optimal health benefits for population […] particularly with regard to policies to mitigate the supply-side drivers of the global obesity and NCD epidemics'.[451] Accordingly, the INFORMAS study recognizes not only that laws have an impact on consumers, by, among other interventions, limiting industries' commercial activities to foster health benefits of the public, but also that the rules shaping food environments are determined at multiple levels of government.

More recently, Downs and others defined food environments as 'the consumer interface with the food system that encompasses the availability, affordability, convenience, promotion and quality, and sustainability of foods and beverages in wild, cultivated and built spaces

445 Swinburn and others (2013) (n 63) 2.

446 Swinburn and others (2013) (n 63) 3. Many studies investigating domestic food environments or components of food environments using INFORMAS have been published, see for example C Nieto, E Rodríguez, K Sánchez-Bazán, 'The INFORMAS healthy food environment policy index (Food-EPI) in Mexico: An assessment of implementation gaps and priority recommendations' (2019) 20 Obes Rev. 67; S Djojosoeparto, CBM Kamphuis, S Vandevijvere and MP Poelman, *The Healthy Food Environment Policy Index (Food-EPI): Nederland – Een beoordeling van rijksoverheidsbeleid met betrekking tot de voedselomgeving in Nederland en beleidsaanbevelingen voor het creëren van een gezonde voedselomgeving* (Policy Evaluation Network, January 2021).

447 B Swinburn, S Vandevijvere, V Kraak and others, 'Monitoring and benchmarking government policies and actions to improve the healthiness of food environments: a proposed Government Healthy Food Environment Policy Index' (2013) 14 Obes Rev. 25.

448 Swinburn and others (2013) (n 447) 14.

449 Emphasis added, Swinburn and others (2013) (n 63) 14; Sacks and others (2008) (n 69) 77. Note that the latter source considers 'laws and regulations' as policy instruments (page 77).

450 Swinburn and others (2013) (n 447) 25.

451 Swinburn and others (2013) (n 447) 25.

that are influenced by the socio-cultural and political environment and ecosystems within which they are embedded'.[452] Interestingly, this model refers to sustainability properties ('the environmental and social impact associated with the food item'),[453] recognizing that sustainability properties can influence consumers' choices, although they are often not visible to consumers.

Table 8. Categories or interventions to improve food environments in food environment frameworks

HLPE	NOURISHING	INFORMAS	Downs and others
Physical access to food (proximity)	Offer healthy food and set standards in public institutions and other specific settings	Food provision	Availability
	Set incentives and rules to create a healthy retail and food service environment	Food retail	
Economic access to food (affordability)	Use economic tools to address food affordability and purchase incentives	Food prices	Affordability
		Food trade and investment	
Food promotion, advertising and information	Nutrition label standards and regulations on the use of claims and implied claims on food	Food labelling	Promotion
	Restrict food advertising and other forms of commercial promotion	Food promotion	
Food quality and safety	Improve nutritional quality of the whole food supply	Food composition	Quality
			Sustainability properties
			Convenience

2.2 Shaping food environments: the role of law

The above corresponds with the so-called legal determinants of health: law has the power to address underlying social and economic causes of disease.[454] In policy practice, the role of law in developing healthier food environments has also been recognized widely. For example, the WHO's Global Strategy on Diet, Physical Activity and Health, and the WHO's best buys propose policy action to promote healthier food choices, thereby aiming for the reduction of NCDs and fostering public health.[455] In response to the uneven effectiveness of the WHO's best buys, 'Quick best buys for prevention and control of noncommunicable diseases' are

452 Downs and others (2020) (n 64) 536.

453 Downs and others (2020) (n 64) 536.

454 LO Gostin, JT Monahan, J Kaldor and others, 'The legal determinants of health: harnessing the power of law for global health and sustainable development' (2019) 393 Lancet 1857, 1857.

455 *Global Strategy on Diet, Physical Activity and Health* (Geneva: World Health Organization, 2004); WHO Best Buys (n 20).

a sub-selection of best buys that 'could exhibit measurable effects within 5 years […]'.[456] It indicates that 25 interventions out of 49 best buys qualify as 'quick best buys', including legal interventions, such as front-of-pack labelling as part of comprehensive nutrition labelling policies and reformulation policies.[457] The quick best buys accordingly highlight the cost-efficiency of deploying some policies, including regulatory (legal) interventions, for ensuring a healthier food environment.[458]

This chapter builds on the understanding that food environments are among the determinants of diets, which in turn is among the determinants of health outcomes, particular the incidence of NCDs.[459] It particularly examines how law is a determinant of food environments. Underpinning this chapter is the assumption that different actors that are part of the food system shape food environments, including food businesses by their commercial practices. These practices can, however, be regulated by policies, laws and regulations, which are stipulated by governments and regulators at different levels. As such, governments and regulators shape food environments by determining 'the rules within which the private sector must operate'.[460] In this exercise, governments or regulators are essentially in a position to balance public interests, including public health, with commercial interests, of which the latter interest is often firmly represented through stakeholder consultations or other lobbying practices.[461] The commercial determinants of health, 'the conditions, actions and omissions by commercial actors that affect health',[462] are as such at the core of the chapter.

In existing models, such as Downs and others' socio-ecological model of the broader food system, 'policies' and governance' are considered in the 'socio-cultural and political environment', which is among the outer layers of the model indicating it is a 'distal driver' of the inner layers, namely food environments, individual factors and, finally, diets.[463] It frames norm-setting laws as elements that influence the socio-cultural and political environment, such as policies and governance, while more generally, measure-setting laws are the outcome of policies and governance (socio-cultural and political environment), and determine how, for example, trade/markets, industry, distribution, media, labour and agriculture are regulated.

456 Galea and others (2025) (n 80) 1.

457 Galea and others (2025) (n 80) 1, 4.

458 Galea and others (2025) (n 80).

459 J Brug, HP van der Ploeg, A Loyen and others, 'Determinants of diet and physical activity (DEDIPAC): a summary of findings' (2017) 14 International Journal of Behavioral Nutrition and Physical Activity 150.

460 Swinburn and others (2013) (n 63) 14; Sacks and others (2008) (n 69) 77. Note that the latter source considers 'laws and regulations' as policy instruments (page 77).

461 See, for example, 'Nutri-Score in the EU: 18 years of food lobbying' (*FoodWatch*, 24 October 2022) < https://www.foodwatch.org/en/nutri-score-in-the-eu-18-years-of-food-lobbying> accessed 22 March 2026.

462 'Commercial determinants of health' (*World Health Organization*, 21 March 2023 < https://www.who.int/news-room/fact-sheets/detail/commercial-determinants-of-health> accessed 11 January 2026.

463 Downs and others (2020) (n 64) 536.

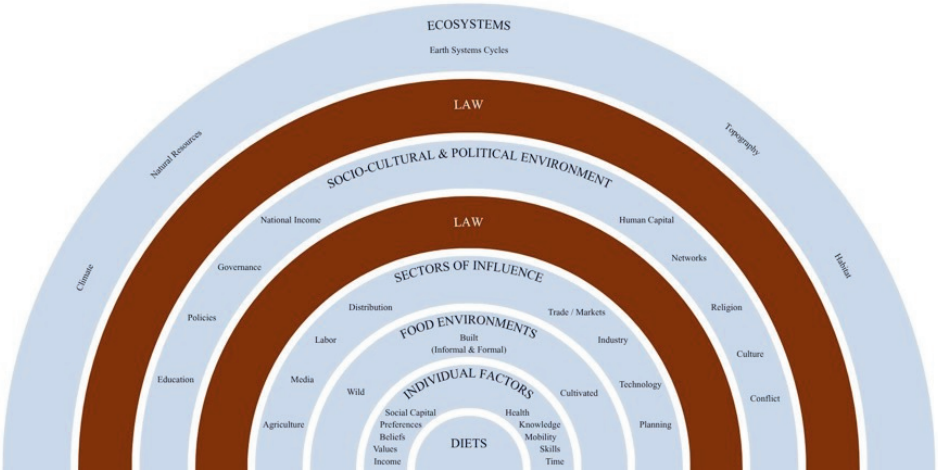

Figure 7. The relation of law and food environments, placed in the broader food system (adapted from Downs et al, 2020)

3. IDENTIFYING THE ROLE OF LAW(S): MEASURE-SETTING AND NORM-SETTING LAW(S)[464]

The different frameworks of food environments recognize that concrete regulations can be adopted to change the construction of food environments. This chapter studies laws at different levels – from the international to the local level. It is highlighted that law does not only shape food environments by setting *measures*, which operate at a 'micro' level, but that laws can also set *norms*, which operate at a 'macro' level.[465] For the purposes of this chapter, measure-setting laws are those that are closer to the actual behaviour of relevant actors in food environments, and thereby closer to consumption choice. They regulate the behaviour of actors active in food systems and thereby influence the environments in which consumers make food-related choices. Laws adopting this role may regulate, for example, food composition, food information given to consumers and food prices and restrict, for example, the food offer, or advertising of food, thereby impacting individuals' behaviour and choices towards food consumption.

Law can also play a normative role, indicating what food environments ought to look like, i.e., that laws must promote human health or what kind of laws should be adopted that may, directly or indirectly and purposely or incidentally, affect food environments.[466] Such norm-

464 Adapted with Canva by Anne Faber, Downs and others (2020) (n 64) figure 1.

465 In the literature on administrative law, such a distinction, between governments' instruments to govern, and the norms that have to be taken into consideration by governments in governing, has also been identified. This model, however, identifies a third category, namely legal protection against governments. See HE Bröring, KJ de Graaf, CLGFH Albers and others, *Bestuursrecht 1: Systeem, Bevoegdheid, Bevoegdheidsuitoefening, Handhaving* (Boom, 2022, 7th edn) 29.

466 On incidental public health laws, see, for example, Burris and others (2016) (n 110).

setting laws thus provide a normative system for designing, adopting, scrutinizing, evaluating and revising laws that concretely regulate food environments. These do not (always) directly impact individuals or consumers but are normative to the overall system. Examples include domestic constitutions and rights stipulated in human rights law treaties. Norm-setting laws can serve as a basis for advocacy for the adoption of legislation improving or protecting public health and may inform the adoption or implementation of concrete regulation.[467] In doing so, they do not only give civil society organizations a strong stance in advocacy efforts but can also cover (legally binding) guidance to legislators.[468]

In other words, some laws, i.e. norm-setting ones, mandate governments (at different levels) to address NCDs, and may thereby require States to foster a healthy food environment, while other laws, measure-setting ones, are those that directly shape food environments and impact behaviour as such. It is pertinent to note that this demarcation serves illustrative purposes – it is a framework to expose the different roles laws can play in shaping food environments. The classification of a law as either norm-setting or measure-setting is therefore also not mutually exclusive: some laws might, for example, set norms at one level but regulate at another level.

3.1 Measure-settings law(s)

3.1.1 International law

At the international level, international trade and investment law, for instance, informs the design of laws and policies shaping food environments at lower levels.[469] In the regime of international trade law, the law of the World Trade Organization (WTO) establishes the rules regulating trade relations between its Members – thereby aiming 'to improve the welfare of people around the world by ensuring that trade flows as smoothly, predictably and freely as possible'.[470] In concrete, but simplified, terms, WTO law protects and fosters international trade flows by preventing discriminatory practices among its Members. As various domestic measures directed at preventing NCDs, for example law shaping a healthy food environments, have the potential to (unintentionally) restrict or distort international trade, WTO

467 See, for example, Protecting Children's Right to a Healthy Food Environment (UNICEF and UN Human Rights Council, 2019); A Garde, S Byrne, N Gokani and B Murphy, *A Child Rights-Based Approach to Food Marketing: a Guide for Policy Makers* (UNICEF, 2018); Toebes and Patterson (2020) (n 202) 248-251.

468 See, particularly figure 2, in the context of obesity, Patterson and others (2018) (n 119) 47-51.

469 Swinburn and others (2013) (n 63). Despite their relevance, free trade agreements and preferential trade agreements are not further discussed in this chapter, as this chapter's aim is rather to outline the role of law in shaping food environments and not to provide a detailed explanation of all areas of law. For a more elaborate discussion of their relevance in public health and/or NCD prevention, please consult M Beyer, *Public Health Protection under International Law: Bridging the Gap between Legal Regimes* (PhD thesis: University of Groningen 2023) 177-207; B McGrady, 'Health and international trade law' in GL Burci and B Toebes (eds), *Research handbook on global health law* (Edward Elgar Publishing 2018) 104, 107-109.

470 'WTO in brief' (*World Trade Organization*) <https://www.wto.org/english/thewto_e/whatis_e/inbrief_e/inbr_e.htm> accessed 31 October 2025.

rules pose (potential) restrictions on States' freedom to adopt domestic regulatory measures and inform the design of domestic measures.[471]

Domestic measures shaping food environments may be conflicting with one or more of the principles and rules established in the General Agreement on Tariffs and Trade (GATT), Sanitary and Phytosanitary (SPS) Agreement, Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement and the Technical Barriers to Trade (TBT) Agreement.[472] For example, as domestic packaging and labelling requirements can disrupt the flow of products across borders, their adoption could, in principle, raise an issue under the TBT; a fiscal policy may be in conflict with the GATT if it is discriminatory; marketing and advertising restriction may be challenged under the GATT and GATS; while a restriction on the use of trademarked logos has been argued to be contrary to TRIPS obligations.[473]

Although such WTO obligations and public health could be (and are sometimes) perceived as mutually exclusive and are used by industries to challenge public health measures, these trade obligations do not necessarily supersede other interests, such as public health.[474] In fact, the abovementioned treaties do not prohibit every possible measure that could restrict or distort trade, but offer a nuanced framework to prevent discriminations against or between imports, while recognizing public health as a legitimate interest and containing general exceptions clauses, including clauses providing for an exception to protect public health.[475] Previous decisions of the Dispute Settlement Body of the WTO, where only Members can challenge the actions of other Members, also confirm the space States have under the public health exceptions – adequate and genuine public health interventions are permittable under

471 McGrady (2018) (n 469) 104, 106; Beyer (2023) (n 469) 98.

472 General Agreement on Tariffs and Trade (adopted 15 April 1994, entered into force 1 January 1995) 1867 UNTS 187 (hereinafter GATT); Agreement on the Application of Sanitary and Phytosanitary Measures (adopted 15 April 1994, entered into force 1 January 1995) 1867 UNTS 154 (hereinafter SPS Agreement; Agreement on Trade-Related Aspects of Intellectual Property Rights (adopted 15 April 1994, entered into force 1 January 1995) (hereinafter TRIPS Agreement); Agreement on Technical Barriers to Trade (Adopted 15 April 1994, entered into force 1 January 1995) 1867 UNTS 154 (hereinafter TBT Agreement). Note that EU Member States are members to the WTO individually, but that the Commission as the representative of the EU, as a single customs union with a single trade policy and tariff, usually speaks for all Member States, 'The European Union and the WTO' (*World Trade Organization*) < https://www.wto.org/english/thewto_e/countries_e/european_communities_e.htm> accessed 10 January 2026.

473 Beyer (2023) (n 469) 99; *Australia-Tobacco Plain Packaging – Panel Report* [2018] WT/DS435/R, WT/DS441/R, WT/DS458/R, WT/DS467/R (hereinafter Australia-Tobacco Plain Packaging (Panel).

474 Beyer (2023) (n 469) 95-126, 234; AM Thow, A Garde, LA Winters and others, 'Protecting noncommunicable disease prevention policy in trade and investment agreements' (2022) 100 Bull World Health Organ 268.

475 Beyer (2023) (n 469) 99; TBT Agreement (n 472) preamble, Art. 2.2; GATT (n 457) Art. XX(b); SPS Agreement (n 472) Art. 2.1.

WTO law.[476] The WTO's mandate to facilitate trade and prevent discrimination, combined with the available public health exceptions thus 'leave sufficient scope for Members to design carefully directed measures to achieve genuine public health goals while minimizing negative effects on international trade'.[477] It is thus of importance that States consider WTO law in the design of measures but does not necessarily limit States' freedom to adopt laws shaping a healthier food environment.

International investment law similarly poses potential restrictions on States' freedom to adopt measures addressing NCDs, including in the context of food environments.[478] This regime does not exist in an overarching, international treaty, organization or global framework, but consists of international investment agreements, often bilateral investment and regional treaties concluded between pairs or groups of States.[479] As the aim to promote foreign direct investments in host States is at the core of such agreements, they ensure a stable environment in which foreign investors can operate without discrimination or other unfair treatment by host States and offer protection.[480] It also grants private actors access to the so-called investor-state dispute settlement system, where national laws that are likely to impact investors' interests can be challenged.[481]

Besides the need for States to consider public health interests prior to entering into international investment agreements, they also need to take the content of such agreements into consideration in the design of domestic laws, including those shaping food environments, that have an impact on protection granted to foreign investors.[482] It must however be noted that, in a recent publication, Garde and Messenger highlight that arbitral tribunals increasingly acknowledge the freedom of States to protect public health and other legitimate interests, although the case law on international investment law in the context of NCD prevention is still in its infancy.[483]

476 Beyer (2023) (n 469) 108-111; *Australia – Tobacco Plain Packaging – Appellate Body Report* [2020] WT/DS435/AB/R, WT/DS441/AB/R; Australia-Plain Packaging (Panel) (n 473). A case where an acclaimed NCD prevention measure was found to discriminate against imported products *United States – Measures Affecting the Production and Sale of Clove Cigarettes – Panel Report* [2012] WT/DS406/R. Cases in the context of public health more generally include *Brazil – Measures Affecting Imports of Retreaded Tyres – Appellate Body Report* [2007] WT/DS332/AB/R; *European Communities – Measures Affecting Asbestos and Products Containing Asbestos – Appellate Body Report* [2001] WT/DS135/AB/R.

477 A Mitchell and T Voon, 'Implications of the World Trade Organization in combating non-communicable diseases' (2011) 125 Public Health 832, 832.

478 See, for example, A Garde and G Messenger, *Public Health and International Economic Law: Preventing Non-Communicable Diseases and Promoting Better Health for All* (Bristol University Press, 2025) 135.

479 C Giorgetti, 'Health and international investment law' in GL Burci and B Toebes (eds) *Research Handbook on Global Health Law* (Edward Elgar, 2018) 165.

480 Giorgetti (2018) (n 479).

481 Garde and Messenger (2025) (n 478) 138.

482 Garde and Messenger (2025) (n 478) 170, 172.

483 Garde and Messenger (2025) (n 478) 144-149, 170.

3.1.2 EU law

At the regional level (EU), the law of the EU impacts food environments in Europe in a twofold manner. On the one hand, the internal market rules may restrict the permissibility of domestic and local measures. On the other hand, (harmonizing) EU legislation itself may also actively be engaged with shaping food environments.

The EU is 'an ever closer union among the peoples of Europe,'[484] aiming 'to promote peace, its values and the well-being of its peoples' and establishes an internal market.[485] This single market should be 'an area without internal frontiers in which the free movement of goods, persons, services and capital is ensured'.[486] To meet this objective, the TFEU prohibits, among other things, the adoption of 'quantitative restrictions on imports and all measures having equivalent effect' between the Member States.[487] This also means that domestic measures, including those shaping food environments, may constitute a restriction of the freedom of movement, and therefore potentially be in conflict with the internal market rules.

Multiple NCD prevention strategies, including those addressing food environments, could constitute a restriction to the free movement, as prohibited in multiple provisions of the TFEU. Delhomme discusses a broad range of such measures and how they could potentially be in violation of specific internal market law provisions under the TFEU.[488] A law requiring previous authorisation for the marketing of fortified foods has been found 'likely to impede trade between Member States' and therefore qualified as a measure having an equivalent effect to quantitative restrictions, which is contrary to Article 34 TFEU.[489] Other measures that could potentially be against the internal market rules include advertising restrictions (Articles 34 (for the goods advertised) and 56 TFEU (for the freedom of advertisers to provide services)),[490] bans on certain products (Article 34),[491] and product requirements including those relating to form, size weight, composition, labelling and packaging (Article 34 TFEU).[492] In his dissertation, Delhomme notes that fiscal measures on, for example, sugar have not yet been challenged before the Court of Justice.[493] Similar to the WTO context,

484 Treaty on European Union [2008] OJ C115/13 (hereinafter TEU), Art. 1.

485 TEU (n 484) Arts. 2(1) and 2(3).

486 TFEU (n 85) Art. 26(2).

487 This provision specifically refers to the freedom of movement of goods, TFEU (n 85) Art. 34.

488 Note that Delhomme's PhD thesis is not limited to the food environment, but to lifestyle risks more generally, V Delhomme, *Regulating lifestyle risks in EU law: promoting health in a diverse market* (PhD thesis: Université Catholique de Louvain 2023).

489 TFEU (n 85) Art. 34; Delhomme (2023) (n 488) 150; Case C-174/82 *Sandoz* [1983] EU:C:1983:213.

490 TFEU (n 85) Arts. 34 and 56; Delhomme (2023) (n 488) 152-157.

491 TFEU (n 85) Art. 34; Delhomme (2023) (n 488) 157; Case C-216/84 *Commission v France (Milk substitutes)* [1988] EU:C:1988:81.

492 TFEU (n 85) Art. 34; Delhomme (2023) (n 488) 158 – 160; Cases C267/91 and C268/91 *Keck and Mithouard* [1993] EU:C:1993:905, para. 15. For a more exhaustive overview and more elaborate discussion of the case law, please consult V Delhomme (2023) (n 488) 120 – 167.

493 For a more elaborate analysis, please consult Delhomme (2023) (n 488) 136-7.

Member States can invoke a public health justification, which may justify a restriction to free movement – although Delhomme finds that in the context of nutrition the passing of this justification has proved challenging in the past.[494]

Besides EU internal market law that could potentially restrict Member States' discretion in designing domestic measures, EU (secondary) legislation can actively shape elements of food environments throughout the EU, provided that the Union has competences to do so.[495] In terms of legislation binding to Member States, it can adopt regulations and directives.[496] The former type is directly applicable and binding in its entirety in all Member States, while the latter type is binding in terms of the result to be achieved, but for which Member States have freedom as to the form and methods to achieve said goal.[497] The latter type must also be 'transposed' into domestic legislation.[498]

The EU and its legislation play an important role in shaping food environments in Europe with over 100 pieces of legislation at the EU-level addressing the food sector, stretching from general food safety law to food labelling law.[499] For example, Regulation 178/2002/EC on general principles and requirements of food law (General Food Law Regulation) sets the basis of EU food law, covering all stages of food and feed production, processing and distribution.[500] Furthermore, in the context of food composition, Commission Regulation 2019/649 amending Annex III to Regulation No 1925/2006 as regards trans-fat, other than trans-fat naturally occurring in fat animal origin sets standards as to the permissible amount of trans fats available in food intended for the final consumer.[501]

Examples of regulations in the area of food labelling include Regulation 1169/2011 on the provision of food information to consumers (FIC Regulation), which sets the requirements for nutrition labelling that are applicable throughout the Union,[502] and Regulation 1924/2006/EC on nutrition and health claims made on foods (Nutrition and Health Claims Regulation), which sets harmonized rules for nutrition and health claims for food products

494 Delhomme (2023) (n 488) 227-8.

495 TEU (n 484) Art. 5.

496 Note that directives could also be interpreted to set 'norms' instead of measures. In the present chapter, directives are considered norm-setting measures without further elaboration, especially given the heuristic nature of the division. TFEU (n 85) Art. 288.

497 TFEU (n 85) Art. 288.

498 'European Union directives' (16 March 2022, *EUR-Lex*) <https://eur-lex.europa.eu/EN/legal-content/summary/european-union-directives.html> accessed 31 October 2025.

499 TK Hervey and JV McHale, *European Union Health Law* (CUP, 2015) 403.

500 Regulation 178/2002/EC on general principles and requirements of food law (2002) OJ L 31/1, Art. 1.

501 Commission Regulation 2019/649 amending Annex III to Regulation No 1925/2006 as regards trans fat, other than trans fat naturally occurring in fat animal origin (2019) OJ L 110/17.

502 Regulation 1169/2011 on the provision of food information to consumers [2011] OJ L 304/18 (hereinafter FIC Regulation).

throughout the EU.[503] Furthermore, through the Common Agricultural Policy (CAP) the EU has also established the School scheme in which it aids Member States in supplying fruit and vegetables, processed fruit and vegetables and banana products.[504]

An example of a directive that contributes to the shape of European food environments includes the Audiovisual Media Services Directive (AVMSD), which mandates in Article 9(4) that:

> 'Member States shall *encourage* the use of co-regulation and the *fostering* of self-regulation through codes of conduct […] regarding inappropriate audiovisual commercial communications, accompanying or included in children's programmes, for foods and beverages containing nutrients and substances with a nutritional or physiological effect, in particular fat, trans-fatty acids, salt or sodium and sugars, of which excessive intakes in the overall diet are not recommended'.[505]

It must be noted that this provision, particularly the use of co-regulation or self-regulation, is heavily criticized,[506] as such regulatory schemes inherently allow industries to represent their own interests in food advertising– which inherently involves a (risk of) conflict of interests and potential underrepresentation of public health interest.[507] Therefore, this example does not only indicate that existing EU legislation determines what food environments concretely look like, but it also exemplifies that the existing legislation does not always foster a *healthy* food environment. Another pillar of food environments in which EU inaction has been criticized connects to food composition. In this area, limited legal action – besides the trans fats regulation mentioned above – and adherence to the self-regulatory EU Code of Conduct

503 Regulation No 1924/2006 on nutrition and health claims made on food [2006] OJ L404/9 (hereinafter Nutrition and Health Claims Regulation).

504 'EU School scheme explained' (*European Commission*) < https://agriculture.ec.europa.eu/common-agricultural-policy/market-measures/school-scheme-explained_en> accessed 22 March 2026; Regulation 1308/2013 establishing a common organisation of the markets in agricultural products and repealing Council Regulations 922/72, 234/79, 1037/2001 and 1234/2007 [2013] OJ L 247/671, Art. 23.

505 Emphasis added, Directive 2018/1808 amending Directive 2010/13/EU on the coordination of certain provisions laid down by law, regulation or administrative action in Member States concerning the provision of audiovisual media services [2018] OJ L 303/69 (hereinafter AVMSD), Art. 9(4).

506 VN Delhomme, 'Rethinking consumer empowerment: new directions for sustainable food law in an era of EU discontent' (2024) 15 EJRR 232, 242-244; O Bartlett and A Garde, 'Time to Seize the (Red) Bull by the Horns: The EU's Failure to Protect Children from Alcohol and Unhealthy Food Marketing' (2013) 28 European Law Review 498; O Bartlett and A Garde, 'The EU's Failure to Support Member States in their Implementation of the WHO Recommendations: How to Ignore the Elephant in the Room?' (2017) 8 EJRR 251.

507 WHO Food marketing guideline (n 74) xii; Set of recommendations on the marketing of foods and non-alcoholic beverages to children (Geneva: World Health Organization, 2010) (hereinafter WHO Set of Recommendations) para. 21, Recommendation 6

illustrate limited efforts to foster food reformulation and improve the nutritional composition of food.[508]

A complex interplay exists between EU- and domestic law. Laws at the domestic level may transpose European directives, adopt legislation supplementing or co-existing besides EU legislation or adopt Member States' alone-standing domestic legislation that constructs food environments. Examples of the transposition of the AVMSD include the Dutch rules for food advertising, the *Nederlandse Reclame Code* (Dutch Advertising Code, NRC for its Dutch abbreviation), particularly its *Reclamecode for Voedingsmiddelen* (Advertising Code for Foodstuffs, RVV for its Dutch abbreviation), which is a self-regulatory code,[509] and the Irish rules for food advertising to children, the Media Services Code, particularly the Children's Commercial Communications Code, which is developed by an independent media regulator.[510]

Besides introducing European measure-setting legislation that constructs food environments, secondary EU law may also limit the regulatory options Member States have to shape (components of) food environments at a domestic level to their own preference. An illustrative example includes the regulation of front-of-pack labelling, a simplified repetition of nutrition information on the front of packaged foods as a direct form of communicating key nutritional information to consumers, which has been recommended as a measure fostering food environments and thereby public health.[511] There is no harmonized front-of-pack labelling scheme at the EU-level,[512] but secondary EU law appears to allow for such voluntary schemes. For example, Article 35 of the FIC Regulation allows for additional forms of nutritional declarations, under which Member States may introduce voluntary (recommended) front-of-pack labelling schemes that are in accordance with requirements listed in that provision.[513] Article 38 instead, indicates that Member States may not adopt national measures in the context of matters harmonized by the FIC Regulation,[514] thereby indicating that any front-of-pack label falling within the scope harmonized by this Regulation would

508 Delhomme (2024) (n 506) 243; 'EU Code of Conduct on Responsible Food Business and Marketing Practices: A common aspirational path towards sustainable food systems' (June 2021) < https://food.ec.europa.eu/system/files/2021-06/f2f_sfpd_coc_final_en.pdf> accessed 31 October 2025.

509 Reclamecode voor Voedingsmiddelen (2026) (hereinafter RVV (2026)).

510 'Children's Commercial Communications Code' (*Coimisiún na Meán*) < https://www.cnam.ie/industry-and-professionals/codes-legislation/codes-and-rules/childrens-commercial-communications-code/> accessed 31 October 2025.

511 Swinburn and others (2013) (n 63); Hawkes and others (2013) (n 129).

512 *Report from the Commission to the European Parliament and the Council regarding the use of additional forms of expression and presentation of the nutrition declaration* (Brussels, 20 May 2020) COM(2020) 207 final (hereinafter Commission Report on the use of additional forms of expression and the presentation of the nutrition declaration), 3-5.

513 FIC Regulation (n 502) Art. 35. Note that Article 36 sets further requirements; ibid, Art. 36.

514 FIC Regulation (n 502) Art. 38.

not be permitted.[515] If a domestic measure introduces a front-of-pack label that provides beneficial information for the product, it would fall within the scope of the Nutrition and Health Claims Regulation. Under this Regulation, it is also likely that domestic mandatory front-of-pack labelling schemes are not permitted.[516]

In other words, following the relevant secondary legislation, it appears like Member States are restricted in adopting binding legislation requiring front-of-pack labelling, but may impose voluntary schemes within the requirements of the FIC Regulation. For example, the Nutri-Score is the voluntary scheme of multiple Member States, including the Netherlands, Belgium and France, while Italy uses the NutrInform Battery, and Sweden, Denmark and Lithuania use a Keyhole as the voluntary front-of-pack scheme.[517]

3.1.3 Domestic law

Outside the sphere of EU law at the domestic level, Member States may adopt their own legislation shaping food environments. For instance, in the realm of food prices or fiscal measures, a number of EU Member States have adopted some form of fiscal measures on foods and beverages high in saturated fats, sodium and sugars (HFSS food).[518] For example, a study published in 2025 reports that, among other Member States, France, Croatia, Belgium, Portugal and the Netherlands have some type of fiscal levy on beverages, with different tax rates, tax structures and exempted products; while Denmark has an ice cream tax and a chocolate and sweet confectionary tax.[519] It must be noted that a tax on packaged sugary

515 Note that Gokani recently argued that the FIC Regulation does not preclude Member States from requiring a mandatory Nutri-Score, one type of front-of-pack label, N Gokani, *Memorandum to Foodwatch on the adoption of a measure on mandatory national Nutri-Score labelling by a Member State of the European Union* (*Foodwatch* 2026), accessible via < https://www.foodwatch.org/fileadmin/-INT/transparency_and_food_safety/documents/Nutri-Score_memorandum.pdf>.

516 For an extensive analysis on the FIC Regulation and the Nutrition and Health Claims Regulation, please consult N Gokani, 'Front-of-pack Nutrition Labelling: A Tussle between EU Food Law and National Measures' (2022) 47 E.L. Rev. 153, 161-170.

517 Commission Report on the use of additional forms of expression and the presentation of the nutrition declaration (n 512).

518 JM De Vet, T Paulovi, L Turturro and others, 'Health taxes from an EU perspective: Final report' (Luxembourg: European Union, 2025) 24-29; *SC 20197106: Mapping of fiscal measures and pricing policies applied to food, non-alcoholic and alcoholic beverages* (Luxembourg: European Union, 2022) 25-32.

519 For an overview, please consult De Vet and others (2025) (n 518) 27-29. In the context of Denmark, note that it has repealed its soft drinks tax in 2014 and is planning to cut excise duties on coffee and chocolate. The excise duty on ice cream and its excise duty on chocolate and sweets are currently still in place, N Stafford, 'Denmark cancels "fat tax" and shelves "sugar tax" because of threat of job losses' (2012) 345 BMJ e7889; 'Denmark to scrap taxes on coffee, chocolate to ease pressure on households' (*The Brussels Time*, 22 August 2025) < https://www.brusselstimes.com/1714413/denmark-to-scrap-taxes-on-coffee-chocolate-to-ease-pressure-on-households> accessed 22 March 2026; 'Excise duty – Tax on ice cream' (*European Commission*) < https://ec.europa.eu/taxation_customs/tedb/legacy/taxDetail.html?id=168/1424159126&taxType=Other+indirect+tax> accessed 22 March 2026; 'Excise duty – Chocolate and sweets' (*Euro[ean Commission*) < https://ec.europa.eu/taxation_customs/tedb/legacy/taxDetail.html?id=152/1424159127&taxType=Other+indirect+tax> accessed 22 March 2026.

drinks has been adopted in Spain at the *local* level, namely by the region of Catalonia, an autonomous region within the Spanish State.[520]

3.1.4 Local law

At the local level, regions, provinces, municipalities, cities, and other local authorities existing within the differing legal systems of (EU Member) States may also adopt laws that shape food environments.[521] For example, (local) planning policies can have a great impact on the physical access to food (i.e., food retail and food provision). Some local authorities in England, which is part of the former EU Member State the United Kingdom, have implemented policies restricting the density or establishment of fast-food outlets.[522] Alternatively, local authorities can also impact food environments through its food promotion pillar by restricting advertising of unhealthy food products. The municipality of Wageningen (the Netherlands) expressed its intention to impose a comprehensive ban on advertising at bus stops in 2025.[523] The objective of this proposal is to reduce stimuli, light pollution, save energy and reduce advertising for unhealthy and polluting products, such as fast food, soft drinks, meat, fossil fuels and gambling companies.[524] Since 1 May 2026 the municipality of Amsterdam has prohibited 'advertising apparently intended to promote products that, given their outward appearance, name, or any other characteristic, evidently consist wholly or partly of dead animals intended for human consumption' in places visible from the public space.[525]

3.1.5 Measure-setting law(s): concluding remarks

Accordingly, measure-setting laws shaping (all pillars of) food environments exist at all levels, whether they co-regulate a specific pillar of food environments or exist separately at a particular level. On the one hand, some of these laws may restrict lower levels 'right to regulate', while, on the other hand, they may directly state the rules that determine food environments. It is important to emphasise the co-regulatory interplay in certain areas, such

520 De Vet and others (2025) (n 518) 24-29.

521 In the context of cities, see, for example, T Forster, F Egal, A Getz and others, *Milan Urban Food Policy Pact. Selected Good Practices from Cities* (Fondazione Giangiacomo Feltrinelli, 2015).

522 H Brown, H Xiang, V Albani, 'No new fast food outlets allowed! Evaluating the effect of planning on the local food environment in the North East of England' (2022) Social Science & Medicine 1.

523 'Wageningen wil reclame uit bushokjes weren' (2 April 2025, *Gemeente Wageningen*) < https://www.wageningen.nl/nieuws/wageningen-wil-reclame-uit-bushokjes-weren/> accessed 31 October 2025 (hereinafter Reclame, Gemeente Wageningen). Note how Stuber and others identify two (anonymous) Dutch municipalities that have reported to restrict unhealthy foods advertising, as well as six (anonymous) Dutch municipalities that have reported to restrict meat advertising, JM Stuber, D Beeres, SC Dijkstra and others, 'Exploring Dutch municipal advertising restrictions on unhealthy and unsustainable products' (2026) 138 Food Policy 1. For a further discussion of how Dutch municipalities could foster healthier food environments through the Dutch Environment and Planning Act, please consult (in Dutch) *Gemeenten aan zet: (Juridische) instrumenten voor een gezonde voedselomgeving (White paper)* (Aletta Jacobs School of Public Health, December 2025) 12-17.

524 Reclame, Gemeente Wageningen (n 523).

525 Original in Dutch, translated by the authors. Note that there is an exemption for advertising in the vicinity of a premise that offers products or services to which the advertising relates, Algemene Plaatselijke Verordening 2008 (Gemeente Amsterdam) Art. 4.10, accessible via <https://lokaleregelgeving.overheid.nl/CVDR72510>.

as labelling regulation, particularly between the EU- and Member States level – where a complex 'patchwork' of legislation defines the shapes of food environments to which individuals are exposed. Another finding worth highlighting is that while the theoretical framework of food environments lists policy areas in which laws can have a positive effect on food environments, practice demonstrates that different interests within society may precede over public health interests, resulting in legislation that is sub-optimal from a public health perspective.

3.2 Norm-setting law(s)

3.2.1 International law

At the international level, a notable example of binding provisions that inform States of how food environments ought to be designed can be found in the body of human rights law.[526] They award individuals with rights, such as the right to adequate food and the right to health, which result in legally binding obligations for States Parties to adopt measures to ensure the fulfilment of these rights.[527] Relevant human rights obligations exist under public international law and can be traced at both the international level,[528] including the ICESCR and CRC,[529] and at the regional level, including the ECHR and the European Social Charter (ESC) which are applicable to the 46 States that are part of the Council of Europe.[530]

Food environments are important drivers of health and are thus inherently a matter of the right to health and related rights.[531] The ICESCR and CRC stipulate the right to highest attainable standard of health in general and for children respectively.[532] Article 12 ICESCR commits States to adopt action to prevent epidemic, endemic, occupational and other diseases.[533] Additionally, Article 11 ICESCR prescribes 'the right to everyone to an adequate standard of living for himself and his family, including adequate food […] and to the continuous improvement of living conditions' (hereinafter 'the right to (adequate) food').[534] The CRC

526 It is important to note that human rights law treaties in principle codify rights that exist based on humanity, rather than that they are granted to individuals by States, and that, as such, human rights law does not necessarily state how law *ought to be*, 'What are human rights?' (*United Nations Human Rights (Office of the High Commissioner*) <https://www.ohchr.org/en/what-are-human-rights> accessed 8 May 2025.

527 ICESCR (n 26) Art. 11-12; CRC (n 52) Art. 24.

528 Note that the Charter of Fundamental Rights of the European Union can also be considered a human rights treaty but will be considered in the sub-section dedicated to the EU.

529 CRC (n 52); ICESCR (n 26).

530 European Convention for the Protection of Human Rights and Freedoms (adopted 4 November 1950, entry into force 13 September 1953, as last amended in 2021) CETS 5/213 (hereinafter ECHR); European Social Charter (18 October 1961, entered into force 26 February 1965) ETS No. 35 (hereinafter ESC).

531 Special Rapporteur Report (Tlaleng Mofokeng, 2023) (n 125) section V; Special Rapporteur Report (Anand Grover, 2014) (n 280) summary.

532 ICESCR (n 26) Art. 12; CRC (n 52) Art. 24. Other relevant rights that are not discussed in the present chapter include Articles 3 (best interest of the child) and 6 (right to life, survival and development) CRC, CRC (n 52) Arts. 3 and 6.

533 ICESCR (n 26) Art. 12(2)(b).

534 ICESCR (n 26) Art. 11(1).

includes similar provisions, aimed at the protection of children in particular. In pursuing full implementation of children's right to health, Article 24(2)(c) requires States to 'combat disease and malnutrition',[535] while Article 24(2)(e) requires ensuring that 'all segments of society, in particular parents and children, are informed, have access to education and are supported in the use of basic knowledge of child health and nutrition'.[536]

Although the right to adequate food is most urgently concerned with ensuring freedom from hunger, it should not be interpreted narrowly and should extend beyond a 'minimum package of calories, proteins and other specific nutrients'.[537] Similarly, 'the right to health embraces a wide range of socio-economic factors that promote conditions in which people can lead a healthy life, and extends to the underlying determinants of health, such as food and nutrition'.[538] Accordingly, food environments, as the contexts in which individuals decide on their food intake and, as such, have an impact on health, fall within the scope of the right to health and the right to adequate food.

States Parties to the relevant treaties, have congruous obligations to ensure the fulfilment of the rights of individuals as mentioned above. It is important to note that almost all obligations related to ensuring a *healthy* food environment are part of the progressive realization of the abovementioned rights, and as such are not of immediate nature.[539] The need for addressing food environments in legislation as part of ensuring the fulfilment of the right to health has been highlighted by the Special Rapporteur on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health, Tlaleng Mofokeng, who states that:

> 'Legal frameworks play a crucial role in shaping the regulatory environments that underpin the ability of communities and individuals to have equal opportunities for food and nutrition, as well as in achieving substantive equality in the realization of the right to health and health-related rights at the national, regional and global levels. […] where these strategies are lacking or fail to take systemic inequalities into account, the result is what activists have called "food apartheid",[540] or unequal and unjust conditions for food and nutrition, which can drive certain individuals and communities

535 CRC (n 52) Art. 24(2)(c).

536 CRC (n 52) Art. 24(2)(e).

537 *Comment No. 12: The Right to Adequate Food (Art. 11 of the Covenant) (Committee on Economic, Social and Cultural Rights, 1999)* UN Doc. E/C.12/1999/5 (hereinafter CESCR GC No. 12), para. 6.

538 CESCR GC No. 14 (n 27) para. 4. See also CESCR GC No. 14 (n 27) para. 3.

539 CESCR GC No. 14 (n 27) paras. 31 and 47. Note that ensuring 'access to the minimum essential food which is adequate and safe' constitutes a core obligation, CESCR GC No. 14 (n 27) para. 43(b).

540 N Lakhani, ''The food system is racist': an activist used a garden to tackle inequities' (*The Guardian*, 25 May 2021) <https://www.theguardian.com/environment/2021/may/25/karen-washington-garden-of-happiness-us-food-system> accessed 12 June 2025.

> to rely on increasingly ubiquitous unhealthy foods and beverages to fulfil their basic needs.'[541]

International human rights law, as a 'norm-setting body' of law in the present context, thus requires the adoption of laws which are labelled as measure-setting laws in the present chapter. The Special Rapporteur flags as current day human rights challenges related to food systems and food environments, among other things, the shaping of food environments by retail markets, stimulation of ultra-processed food consumption through advertising, promotion and marketing strategies disproportionately targeting vulnerable groups, as well as the growth of supermarkets and fast-food chains, at the expense of smaller scale suppliers.[542] Further examples of progressive obligations that are concerned with food environments include providing information on healthy eating that is accessible, understandable, and appropriate for children,[543] as well as regulating children's exposure to 'fast foods', their marketing and their availability in schools.[544] Other suggested policies include front-of-pack nutrition labelling, restricting marketing and advertising of certain foods, the adoption of fiscal policies, as well as healthy food procurement policies.[545]

Besides States as the primary duty bearers under the State-centric framework of human rights law, there is increasing attention for industries' responsibilities and the horizontal effect of human rights,[546] given the (growing) impact of their activities on health outcomes. Several human rights documents recognize the role and responsibility of private actors in the fulfilment of the right to health, by, amongst other things, indicating that private sector responsibilities are independent of State obligations and highlighting that the promotion of false or misleading health claims goes against this responsibility.[547] Another relevant framework in this context is provided by the Guiding Principles on Business and Human Rights, a non-binding but authoritative framework that does not create new international obligations, but rather aims to enhance existing standards with regard to business and human rights.[548] The Guiding Principles are based on three pillars, namely State's duty to *protect* human rights, corporate responsibility to *respect* human rights and access to *remedy*.[549] Among its foundational principles are that respecting human rights 'means that [businesses] should avoid

541 Special Rapporteur Report (Tlaleng Mofokeng, 2023) (n 125) para. 21.

542 Special Rapporteur Report (Tlaleng Mofokeng, 2023) (n 125) para. 26-27.

543 CRC GC No. 15 (n 44) para. 58-59.

544 CRC GC No. 15 (n 44) para. 47.

545 Special Rapporteur Report (Tlaleng Mofokeng, 2023) (n 125) paras. 73-82.

546 See, for example, AB Silveira, 'Risk-Creating Industries' Obligation to the Right to Health' in AR Ziegler, D Canapa and MI Cardozo (eds) *Business and Human Rights: Emerging Challenges, Issues and Trends* (Brill 2024) 242, 250 - 254. Silveira also elaborates further on the horizontal effect of human rights on pages 248-250.

547 CESCR GC No. 24 (n 200) para. 1; Silveira (2024) (n 546) 252, 254-256.

548 *Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework* ((New York and Geneva: United Nations 2011) 1.

549 UN Guiding Principles on Business and Human Rights (n 548).

infringing on the human rights of others and should address adverse human rights impacts with which they are involved',[550] and that the responsibility to respect human rights requires business enterprises to '[a]void causing or contributing to adverse human rights impacts through their own activities, and address such impacts when they occur'.[551] Following this reasoning, industries thus also carry responsibilities to improve their own practices to foster the enjoyment of the right to health by adjusting their own activities. Given that the Guiding Principles are non-binding and that there are limitations to the enforcement of the horizontal effect of human rights,[552] a future legally binding instrument addressing the activities of transnational corporations could contribute to the fulfilment of the right to health in the context of food environments.[553]

3.2.2 Regional law (Council of Europe)

At the European level, particularly in the context of the Council of Europe, which is not within the realm of the EU, the ESC, stipulating economic, social and cultural rights in the context of the Council of Europe, sets out the right to protection of health, following which Member States are asked to take appropriate measure 'to remove as far as possible the causes of ill health' and 'to prevent as far as possible […] diseases'.[554] This right has been linked to a healthy environment by the European Committee of Social Rights, although food environments appears not to have been considered thus far.[555]

As the counterpart of the ESC stipulating civil and political rights, the ECHR does not include a provision prescribing the right to health or right to food.[556] Similar to the ESC, it appears like the European Court of Human Rights (ECtHR) is yet to hear a case on general food environments. It has been highlighted, however, that the jurisprudence of the Court may indicate an obligation for States to address food environments under the ECHR.[557] A line of case law in the context of Articles 2 and 8 ECHR, providing the right to life and the right to private life respectively, exists in which the ECtHR found that States were acting in violation of the previously mentioned rights when they failed to adopt measures to protect the living environment in case of serious and known risks for the health, wellbeing or life of

550 UN Guiding Principles on Business and Human Rights (n 548) Principle 12.

551 UN Guiding Principles on Business and Human Rights (n 548) Principle 13(a).

552 Note how Silveira highlights the potential domestic courts have in this regard, Silveira (2024) (n 546) 257 -60.

553 Silveira (2024) (n 546) 260-262; *Interim Report of the Special Rapporteur on the right to food* (United Nations General Assembly, 3 August 2016) UN Doc. A/71/282, para. 99(c)-(d).

554 ESC (n 530) Art. 11(1) and 11(3).

555 *Guaranteeing the access to healthy and sustainable food for present and future generations: The role of the EU legislative framework for sustainable food systems* (ClientEarth, March 2023) 9-10.

556 ECHR (n 530).

557 H van Kolfschooten, R Neerhof, A de Ruijter and M Visser, *Juridisch instrumentarium voor een gezonde voedselomgeving in de stad* (Universiteit van Amsterdam, 2020) 14-15; ClientEarth report (n 555) 9-10; A de Ruijter, C Dijkstra, B Wallage and others, *Tussen mens en ruimte, de (on)gezonde voedselomgeving als omgevingswaarde* (Amsterdam, December 2023) 16.

individuals. Although these cases do not concern food environments specifically and rather concern the risk of explosion on a dumping ground,[558] the presence of factories and other industrial activities in the vicinity of residential areas,[559] and the omission to address health threats, for example asbestos, in the workplace,[560] this line of case law has been connected to the context of food environments.[561]

In addition to the jurisprudence related to the general environment and environmental risks, the Court's jurisprudence in cases concerning detention facilities (including detainees' transport) may also prove insightful. These environments are entirely and strictly regulated by authorities and make detainees almost entirely dependent on the authorities' provision of food. Two strands of cases relevant for this chapter have been deducted from the Court's jurisprudence:[562] on the one hand, the provision of food has been considered in light of general detention conditions, while, on the other hand, the Court has also heard cases specifically focusing on special dietary requests of individuals residing in detention facilities.[563]

The provision of food and nutrition in detention facilities has particularly been considered in the context of Article 3 ECHR (inhuman and degrading treatment).[564] The Court has consistently held that a 'clear insufficiency of food given to an applicant may in itself raise an issue under Article 3 of the Convention',[565] even in cases where there is no indication of authorities' intent to humiliate or degrade applicants.[566] In many cases, a 'clear insufficiency of food' relates to the amount of daily meals provided to detainees,[567] and whether that is sufficient

558 *Öneryildiz v Turkey* App. No. 48939/99 (ECtHR, 30 November 2004).

559 *Giacomelli v Italy* App. No. 59909/00 (ECtHR, 2 November 2006); *Cordella and others v Italy* App. Nos. 54414/13 and 54264/15 (ECtHR, 24 January 2019); *Hatton and others v United Kingdom* App nos. 54414/13 and 54264/15 (ECtHR, 8 July 2003).

560 *Brincat and others v Malta* App. nos. 60908/11, 62110/11, 62129/11, 6312/11, 62338/11 (ECtHR, 24 July 2024); *Vilnes and others v Norway* App. Nos. 52806/09 and 22703/10 (ECtHR, 5 December 2013).

561 Van Kolfschooten and others (2020) (n 557) 14-15.

562 An exhaustive search strategy through HUDOC has not been conducted and the cases considered for the purposes of this chapter have been directly and indirectly identified through thematic factsheets and the Guide on Prisoners' Rights, 'Prisoners' health-related rights' (*European Court of Human Rights*, January 2023) < https://www.echr.coe.int/documents/d/echr/FS_Prisoners_health_ENG> accessed 29 December 2025; 'Detention conditions and treatment of prisoners' (*European Court of Human Rights*, November 2023) < https://www.echr.coe.int/documents/d/echr/FS_Detention_conditions_ENG> accessed 29 December 2025; *Guide on the case-law of the European Convention on Human Rights: Prisoners' rights* (European Court of Human Rights, updated on 31 August 2025) chapter F.

563 Also interesting in the present context is the article by Silveira and Levy on the right to a vegan diet under the ECHR in hospitals and prisons, AB Silveira and M Levy, 'Planting Rights and Feeding Freedom: Navigating the Right to a Vegan Diet in Hospitals and Prisons' (2025) 32 EJHL 335.

564 ECHR (n 530) Art. 3.

565 *Dudchenko v Russia* App no 37717/05 (ECtHR, 7 November 2017), para. 130. See also, *Korneykova and Korneykov v Ukraine* App no 56660/12 (ECtHR, 24 March 2016), para. 141; *Stepuleac v Moldova* App no 8207/06 (ECtHR, 6 November 2007), para. 55; *Guliyev v. Russia* App no 24650/02 (ECtHR, 19 June 2008), para. 62.

566 *Kadiķis v Latvia* App no 62393 (ECtHR, 4 May 2025), para. 56; *Iacov Stanciu v Romania* App no 35972/05 (ECtHR, 24 July 2012), para. 179.

567 Stepuleac v Moldova (n 565) para. 62.

to meet the basic needs of the body.[568] For example, the provision of one meal per day with bread for the rest of the day for a period of fifteen days;[569] one full meal per day with possible supplementary foods sent by relatives;[570] a two-day food ration for a journey that lasted almost three days;[571] and 'a slice of bread, an onion, and a piece of grilled fish, or a meatball' on hearing days[572] were all considered insufficient, and led (together with other factors) to a violation of Article 3. In *Korneykova and Korneykov v. Ukraine*, the Court characterizes the sufficiency of food as 'crucial' in case of a breastfeeding mother, while it indicates in other cases that authorities must provide for compatible meals for detainees with specific dietary needs in cases of (chronic) diseases.[573]

In contrast, violations of Article 3 were not found in cases where applicants complained of a 'possibly monotonous diet provided by the prison canteen,'[574] a lack of packed meals on transportation days when an applicant was able to eat breakfast and dinner at the detention facilities and adequate standards for packed meals were in place,[575] and in cases where prison kitchens and meals served were checked for hygiene, and were set and controlled for quantity and quality by the authorities.[576]

Furthermore, dietary requests for religious reasons in detention facilities fall within the realm of Article 9 ECHR (freedom of religion), as observing dietary rules can be considered a direct expression of beliefs as protected under Article 9 ECHR.[577] Nevertheless, the Court appears to be somewhat more permissive to limitative factors the authorities are faced with in these cases. Although detention facilities should observe simple dietary restrictions for religious reasons, such as vegetarianism for a Buddhist detainee,[578] it has freedom to choose not to observe more complex and demanding dietary requests, such as the strict preparation of kosher foods.[579] In *Erlich and Kastro v. Romania*, the Court states that the decision to adopt

568 Kadiķis v Latvia (n 566) para. 55.

569 Kadiķis v Latvia (n 566) para. 55.

570 Stepuleac v Moldova (n 565) para. 55.

571 *Guliyev v Russia* App no 24650/02 (ECtHR, 19 June 2008), para. 62.

572 In this case, the Court stated that this was insufficient, especially in light of the applicant's participation in hearings, causing him psychological stress. The quoted text has been translated from French to English by the author, with the help of Google Translate where necessary, *Moisejevs v Latvia* App no 64846/01 (ECtHR, 15 June 2006), para. 79.

573 *Korneykova and Korneykov v. Ukraine (*n 565) para. 141; *Ilascu and others v Moldova and Russia* [GC] App no 48787/99 (ECtHR, 8 July 2004), para. 265 and 451; *Ebedin Abi v Turkey* App no 10839/09 (ECtHR, 13 March 2018), para. 33.

574 *Valasinas v. Lithuania* App no 44558/98 (ECtHR, 24 July 2001), para. 109.

575 *Bagel v Russia* App no 37810/03 (ECtHR, 15 November 2007), paras. 67-69.

576 Valasinas v Lithuania (n 574) para. 109; Bagel v Russia (n 575) paras. 67-69; *Alexov v Bulgaria* App no 54578/00 (ECtHR, 22 May 2008), para. 106; *Muršić v Croatia* [GC] App no 7334/13 (ECtHR, 20 October 2016), para. 166.

577 ECHR (n 530) Art. 9; *Jakóbski v Poland* App no 18429/06 (ECtHR, 7 December 2010), paras. 45-55; *Vartic v Romania (no. 2)* App no. 14150/08 (ECtHR, 17 December 2013), paras. 33-36).

578 Jakóbski v Poland (n 577) paras. 48-55

579 *Erlich and Kastrof v Romania* App nos. 23735/16 and 23740/16 (ECtHR 9 June 2020), para. 37.

or not adopt detailed regulations concerning the practice of a particular religion in detention centres falls within the margin of appreciation of the State,[580] and finds no violation of Article 9 ECHR.[581]

The prison cases concern the most exhaustively regulated food environments within States and, despite indicating obligations in the context of food provision to persons deprived of their liberty, do not extend to State obligations in the context of general food environments. The larger discussion of the jurisprudence of the ECtHR indicates that, although healthy food environments have not explicitly been considered in the jurisprudence, the living environment and certain direct serious health threats existing within that environment can be within the scope of the rights ensured under the ECHR, as well as food environments that are largely controlled by the State, where the State must provide at least *sufficient food*.

Another area of relevant ECtHR case law exists in the context of advertising restrictions. Article 10 ECHR protects freedom of expression, which includes in its scope commercial expression.[582] This means that the rights of individuals and other entities to communicate commercial expressions, including advertising, are protected under this provision and States must therefore ensure the adequate balancing of this right with other rights and interests in adopting advertising regulations. It must be noted that in balancing freedom of commercial expression with other interests, the Court has awarded the State with a wide margin of appreciation,[583] which means that States have discretion to limit commercial expression if they deem it necessary to do so.

This means that in assessing advertising regulations in light of the limitations clause in Article 10(2), which indicates that freedom of speech can be limited if it is prescribed by law; pursues a legitimate aim; and is necessary in a democratic society,[584] the Court tends to run a 'soft' test. A limitation of freedom of commercial speech, including an advertising restriction, must be prescribed by law, and must be accessible and foreseeable.[585] It must furthermore pursue a legitimate aim, such as the protection of health, which is expressly included in the provision itself.[586] Finally, for a restriction to be necessary in a democratic society, the Court adopts a flexible standard in cases of commercial expression by regarding whether there are 'reasonable grounds' for the restriction, rather than the standard of a 'pressing social need'

580 Erlich and Kastrof v Romania (n 560) para. 34.

581 Erlich and Kastrof v Romania (n 560) para. 45.

582 ECHR (n 530) Art. 10; *Markt Intern Verlag GmbH and Klaus Beermann v Germany* App no. 10572/83 (ECtHR, 20 November 1989), para. 26; *Casado Coca v. Spain* App no. 15450/89 (ECtHR, 24 February 1994), paras. 35-36; *Mouvement raëlien suisse v Switzerland* App no. 16354/06 (ECtHR, 13 July 2012) [GC], para. 61.

583 Markt Intern Verlag GmbH and Klaus Beermann v Germany (n 582) para. 33.

584 ECHR (n 530) Art. 10(2).

585 See, for example, *Delfi AS v Estonia* App no. 64569/09 (ECtHR, 16 June 2015) [GC], para. 120.

586 ECHR (n 530) Art. 10.

in other types of expression.[587] In the context of tobacco advertising restrictions, which were adopted for similar reasons as unhealthy food advertising restrictions, the Court awarded particular value to the existence of a European consensus concerning the need for comprehensive regulation for tobacco advertising and, on that basis, held that fundamental concerns of public health could prevail over certain fundamental rights, including freedom of expression.[588] Accordingly, although Article 10 ECHR protects companies' freedom of commercial expression, the limitation of this right is likely to be justifiable under Article 10(2) ECHR in the context of unhealthy food advertising restrictions.[589]

3.2.3 Regional law (EU)

At the EU-level, the Charter of Fundamental Rights of the European Union (CFR) remains limited to some rights that are connected to health but does not directly connect to food environments. It includes a right to health(care), which reiterates that '[a] high level of human health protection shall be ensured in the definition and implementation of all Union policies and activities'.[590] It additionally lists the rights of the child, which includes a right 'to such protection and care as necessary for their well-being' and requires the child's best interests to be a primary consideration.[591] Although the CFR includes a right to environmental protection, which requires that '[a] high level of environmental protection and the improvement of the quality of the environment must be integrated into the policies of the Union and ensured in accordance with the principle of sustainable development',[592] food environments appear not to be covered. In fact, a right to food, which exists in international treaties,[593] is not among the rights guaranteed in the CFR.[594] Further, it has been noted that the right to health(care) in the CFR lacks references to food and nutrition as determinants of health, which goes against the trend set by the right to health (and the right to food) under the CRC and ICESCR.[595]

Additionally, Article 168(1) mandates that the Union ensures '[a] high level of human health protection […] in the definition and implementation of all Union policies and activities'.[596] In the view that EU legislation, together with national law and local regulations, defines the

587 Ó Cathaoir (2022) (n 280) 135; Markt Intern Verlag GmbH and Klaus Beermann v Germany (n 582) para. 26; *Handyside v United Kingdom* App no 5492/72 (7 December 1976), para. 48.

588 *Societé de conception de presse et d'édition and Ponson v France* App no 26935/05 (ECtHR, 5 March 2009), para. 56.

589 For a thorough analysis, please consult Ó Cathaoir (2022) (n 280) 135-140; K Dzehtsiarou and A Garde, 'Freedom of Commercial Expression and Public Health' (2022) 50 J.M.L.&E. 250.

590 Charter of Fundamental Rights of the European Union [2012] OJ C 326/391, Art. 35.

591 CFR (n 590) Art. 24.

592 CFR (n 590) Art. 37.

593 ICESCR (n 26) Art. 11.

594 CFR (n 590); M El Gemayel and IT Winkler, 'Better nutrition for better health: a human rights perspective on EU law and policy on food and nutrition' (2025) 25 Human Rights Law Review 1, 7.

595 El Gemayel and Winkler (2025) (n 594) 6.

596 TFEU (n 85) Art. 168(1).

shape of food environments, this provision can as such be considered a norm-setting basis for the construction of EU-level legislation that impacts food environments. Nevertheless, this provision indicates that the EU's action in the area of (public) health 'shall complement national policies'.[597] Article 168(5) TFEU further allows for the adoption of '*incentive* measures designed to protect and improve human health […], excluding any harmonisation of the laws and regulations of the Member States'.[598] The spirit of this provision is in accordance with Article 6 TFEU, which states that the competences of the EU in the area of protection and improvement of human health are limited to supporting, coordinating or supplementing Member States' actions.[599]

The characterization of EU competences in the area of public health in Article 168 TFEU alone, however, does not represent a complete picture of EU competences in the area of public health, and thereby food environments – as the competences of the EU in the areas of public health, food and nutrition constitute a complex web.[600] Article 114 TFEU allows the EU to adopt measures 'which have as their object the establishment and functioning of the internal market'.[601] In acting upon this competence, a high level of protection, including health protection, must be ensured, and special regard must be had to 'any new development based on scientific facts'.[602] Article 169 TFEU on consumer protection reiterates that through measures adopted under Article 114 TFEU, the EU shall contribute to protection of, among other things, health of consumers.[603] Accordingly, Article 114 TFEU, or its predecessor, Article 95 of the Treaty establishing the European Community (TEC), has often served as the legal basis for EU legislation shaping food environments, such as the FIC Regulation and the Nutrition and Health Claims Regulation.[604] Accordingly, although the EU has limited competences to address food environments for public health reasons, it has the competences to address this from an internal market perspective and, in doing so, is under the obligation to ensure a high level of human health protection.[605]

597 TFEU (n 85) Art. 168(1).

598 Emphasis added, TFEU (n 85) Art. 168(5).

599 TFEU (n 85) Art. 6.

600 El Gemayel and Winkler (2025) (n 594) 5; H Schebesta and K Purnhagen, *EU Food Law* (OUP, 2024) 35; Hervey and McHale (2015) (n 499) 389.

601 TFEU (n 85) Art. 114(1).

602 TFEU (n 85) Art. 114(3).

603 TFEU (n 85) Art. 169.

604 FIC Regulation (n 502); Nutrition and Health Claims Regulation (n 503); TFEU (n 85) Art. 114; Treaty establishing the European Community [2002] OJ C 325/33 (hereinafter TEC) Art. 95.

605 A critical reading of this is presented in Chapter 6 of this dissertation, as well as in V Delhomme, 'Where Market and Health Collide: The Limits of Policy Experimentation in EU Prevention of Non-Communicable Diseases and Tobacco Control (2025) 85 ZaöRV 1095.

3.2.4 Domestic and local law

At the domestic level, constitutions and other framework legislation can also state how laws ought to be. For example, Article 22(1) of the Dutch Constitution states that '[t]he authorities shall take steps to promote the health of the population.'[606] Following from this provision, the government is obliged to prevent certain diseases, including those fuelled by unhealthy diets, in which food environment play an important role.[607] In the Netherlands, the central government has also adopted legislation in which it delegates tasks to municipalities to ensure the protection of public health, the *Wet Publieke Gezondheid* (Public Health Act). As mandated by this Act, every four years, the Secretary of Health publishes a national memorandum on public health policy, based on which municipalities must develop a memorandum in which they will implement the public health policy.[608]

3.2.5 Norm-setting laws: concluding remarks

The section highlights the norm-setting role of law: at different levels, laws exist that establish normative systems for designing, adopting, scrutinizing, evaluating and revising laws that concretely regulate food environments. Thereby, they can inform concrete measure-setting laws directly, but can also serve as an important basis for scrutiny. This type of laws is especially affluent to balance out public health interests against commercial ones. Thereby, they can offer a counterbalance in the context of the commercial determinants of health, which are especially relevant in the context of NCDs.

4. FOOD FOR THOUGHT: STUDYING AND DEPLOYING LAWS FOR HEALTHY FOOD ENVIRONMENTS

This chapter signals various ways in which laws at multiple levels shape food environments. It is built on the presumption that law shapes food environments and can thereby have an impact on health outcomes, particularly nutrition related NCDs. Law determines the space in which food environments can be built, for example by the food industry, including food producers, marketeers and advertisers, food retailers and food outlets. This, in turn, impacts how food environments are ultimately furnished: for example, can unhealthy food products be advertised in the online and offline world?; does packaging contain front-of-pack labels or health warnings?; are there any upper limits of, for example, trans fats, permitted in food products for human consumption?; are healthy food products affordable?; and can fast food outlets erect at all locations? The shape of these food environments impacts dietary choices, of which unhealthy ones are recognized as a risk factor of NCDs, and as such indirectly can influence NCD incidence.

606 Translation by the author, *Grondwet voor het Koninkrijk der Nederlanden* , Art. 22 para. 1.

607 Van Kolfschooten and others (2020) (n 557) 17.

608 *Wet Publieke Gezondheid*, Art. 13 paras. 1 and 2.

For illustrative reasons, the chapter distinguishes between laws embodying a measure-setting function and laws adopting a norm-setting function. In the former category, we identify that, at some levels, laws fostering free trade could potentially restrict regulators at a lower level in the adoption of NCD prevention measures, including those shaping food environments – albeit with important public health exceptions. This category also includes laws that intentionally shape food environments, by fostering industries to attain a certain 'design' of food environments, or restricting or discouraging another – by, for example, requiring nutrition labels and encouraging front-of-pack labels or prohibiting or restricting advertising of unhealthy food. Finally, norm-setting laws – this chapter particularly highlights human rights law in this context – establishes a normative system that supports the development of *healthy* food environments. This body of law particularly adds weight to public health interests in the balancing of different societal and policy interests, where commercial ones often prevail. Table 8 provides a (non-exhaustive) overview of examples mentioned in the chapter.

Table 9. Overview of examples in the chapter

	Measure-setting	**Norm-setting**
International	International trade law; International investment law	ICESCR and CRC (United Nations human rights system)
Regional (EU)	EU Internal market law; EU secondary legislation (including the FIC Regulation; General Food Law Regulation; and the AVMSD)	TFEU; CFR
		ESC and ECHR (Council of Europe)
Domestic	Fiscal measures; food advertising rules	Constitutions
Local	Local advertising rules; regulation of fast food outlet density	Overarching (framework) public health laws

The chapter reveals the diversity of relevant levels and areas of law, as well as the multidisciplinary expertise required to shape food environments in a way that is beneficial for public health, or for other public interests, such as sustainability objectives. For this reason, this chapter should serve as an invitation for lawyers to interact beyond the boundaries of their legal area of expertise, but also beyond the boundaries of law itself. May this chapter be food for thought for its readers: how does your area of expertise impact food environments (lawyers); or how can legal expertise foster your work in food environments (non-lawyers)?



Chapter 5

A human rights-based approach to food advertising in the Netherlands: Turning a Swiss cheese into a firm Gouda?

1 INTRODUCTION

The Dutch population increasingly suffers from overweight and obesity. In 2025, more than 50 per cent of all adults was overweight,[609] and this number is projected to increase to 64 per cent in 2050.[610] In 2025, 12,4 per cent of all Dutch children was overweight and 2,9 per cent of all children was obese.[611] High BMI was ranked the fifth biggest risk factor driving death and disability in the Netherlands in 2017.[612] These numbers exist in a worrisome food environment.[613] A study published in 2021 reports that 97 per cent of all products containing child marketing, for instance packaging decorated with cartoons, are not within the national nutrition profile.[614] A study conducted in 2024 confirms that the majority of food advertising to which children are exposed falls outside the national food guidelines,[615] and that for example 79% of all food advertising posted by influencers on Instagram falls outside the national nutrition guidelines.[616]

Advertising is an important factor in shaping consumers' preferences and has significant health impacts: the WHO Commission on Ending Childhood Obesity highlighted that '[t]here is unequivocal evidence that the marketing of unhealthy foods and sugar-sweetened beverages is related to childhood obesity'.[617] Currently, Dutch food advertising is regulated through a self-regulatory scheme, largely developed by industries.[618] On 1 February 2026 amendments to the *Reclamecode voor voedingsmiddelen* (Advertising Code for Foodstuffs, RVV for its Dutch abbreviation) entered into force, in which the food industry claims to

609 A Body Mass Index (BMI) of 25 and above is considered overweight, obesity is defined as a BMI of 30 and above. 'Overgewicht | Volwassenen' (*VZinfo*, 13 March 2026) < https://www.vzinfo.nl/overgewicht/volwassenen> accessed 6 July 2026.

610 'Overgewicht zal blijven toenemen tot 2050, vooral onder jongvolwassenen' (*Rijksinstituut voor Volksgezondheid en Milieu*, 25 October 2024) < https://www.rivm.nl/nieuws/overgewicht-zal-blijven-toenemen-tot-2050-vooral-onder-jongvolwassenen> accessed 29 January 2026.

611 'Overgewicht | Jongeren' (*VZinfo*, 13 March 2026) <https://www.vzinfo.nl/overgewicht/jongeren> accessed 22 March 2026.

612 'What risk factors drive the most death and disability combined?' (*The Institute for Health Metrics and Evaluation*) <http://www.healthdata.org/netherlands> accessed 12 July 2020.

613 MP Poelman, SC Dijkstra, SK Djojosoeparto and others, *Monitoring van de mate van gezondheid van het aanbod en de promoties van supermarkten en out-of-home ketens: Inzicht in de huidige stand van zaken en aanbevelingen voor het opzetten van een monitor (*Wageningen University & Research, 2021) 7.

614 Poelman and others (2021) (n 613) 7.

615 H Faun, R Polderman, N Hasselman-Pals and R van Breugel, *Monitor Kindermarketing voor voedingsproducten – Peiljaar 2024* (Panteia, 31 March 2025) 6.

616 Faun and others (2025) (n 615) 6.

617 *Report of the Commission on Ending Childhood Obesity* (Geneva: World Health Organization, 2016) 18.

618 'Wie zijn we' (Stichting Nederlandse Reclame Code) <https://www.reclamecode.nl/over-de-src/over-de-src/> accessed 6 August 2025.

commit itself to reducing children's exposure to advertising and thereby promoting a healthier living environment.[619]

The amount of food advertising contrary to the Dutch national nutrition guidelines raises several health-related human rights concerns. Most obviously, advertising of unhealthy food drives up the consumption of unhealthy diets, one of the main risk factors of NCDs. This, in turn, affects the fulfilment of the right to the highest attainable standard of health (Article 12 ICESCR and Article 24 CRC).[620] When unhealthy food products are promoted, the right to an adequate standard of living, including adequate food, which is also concerned with the nutritional value of food, is similarly impacted (Article 11 ICESCR).[621] The act of (aggressively) advertising additionally interferes with children's right to information (Article 13 CRC).[622] Finally, governments are not in a place to protect children's (best) interest against commercial interests in self-regulatory systems – regulatory systems in which industries regulate their own behaviour – and are thereby not able to ensure the best interest of the child (Article 3 CRC).[623]

This chapter presents a critical analysis of the Dutch system regulating the advertising of food and beverages high in sugar, sodium and saturated fats (HFFS food),[624] particularly against the right to health and the right to an adequate standard of living, including adequate food under the ICESCR and CRC.[625] It does so on the account of three questions: 1) which parties hold regulatory power?; 2) which groups' protection is considered by the regulation?; and 3) which media are regulated? The scope is limited to rights in the context of public health, and does not consider potential rights of industries, such as freedom of (commercial) expression.

The chapter's first section briefly introduces the Dutch rules on food advertising, followed by an exploration of the aforementioned rights in the context of food advertising regulations and the corresponding State obligations, as identified in General Comments, Concluding Observations and reports of Special Rapporteurs, and supplemented with WHO publications.[626]

619 'Marketing gericht op kinderen en jongeren verder beperkt' (*Federatie Nederlandse Levensmiddelen Industrie*, 22 January 2026) < https://fnli.nl/vernieuwde-reclamecode-voedingsmiddelen> accessed 29 January 2026. Note that this chapter was developed before new rules were announced, but that the adjustments are taken into consideration as much as possible.

620 ICESCR (n 26) Art. 11; CRC (n 52) Art. 24.

621 ICESCR (n 26) Art. 12.

622 CRC (n 52) Art. 13.

623 CRC (n 52) Art. 3.

624 More precisely, the WHO Guideline on Policies to protect children from the harmful impact of food marketing defines HFSS foods as 'foods high in saturated fatty acids, trans-fatty acids, free sugars and/or salt, usually highly processed, whose consumption is associated with negative health effects', WHO Food marketing guideline (n 74) vi.

625 ICESCR (n 26) Arts. 11 and 12; CRC (n 52) Art. 24.

626 ICESCR (n 26); CRC (n 52). On the use of WHO technical guidance in interpreting human rights, particularly the right to health, please consult Ó Cathaoir and Hartlev (2020) (n 313) 57, 59-60.

Based on the human rights framework established, the chapter subsequently critically analyses the current Dutch system more extensively against the rights to health and food, zooming in on the three relevant dimensions. Based on the analysis, it is submitted that the Dutch regulatory system is *underinclusive* on all three accounts: it is deficient to reaching the level set by the rights to health and food.[627] The conclusion presents recommendations as to how the Dutch government can design new legislation and work towards the fulfilment of the rights to health and food. This is especially relevant considering the government's repeated commitments and the currently running initiative to adopt comprehensive statutory food marketing legislation, which has not yet culminated into statutory legislation, and which may also be undermined by the recent commitment of the industry to stricter standards that essentially continues to permit food advertising on the industry's own terms.[628]

2. BACKGROUND: DUTCH ADVERTISING RULES

In the Netherlands, general matters related to advertising are regulated in the NRC, a voluntary self-regulating instrument stipulating a set of rules to which advertisers should adhere.[629] It includes a general code and several special codes regulating the advertising of specific matters, such as advertising to children, social media and influencer advertising, and food advertising.[630] Advertisers, media and advertising agencies founded the *Stichting Reclame Code* (Advertising Code Foundation, SRC for its Dutch abbreviation) independently of the government.[631] This foundation still exists independently of the government,[632] and among its members are associations of advertisers, branch organizations, and societal and

627 Following the framework of over- and underinclusive rules as proposed by Westerman, a rule is underinclusive if it is deficient to reaching the policy goal. As the Dutch system relies on self-regulation and no clear policy goal is defined yet, this chapter considers the fulfilment of the rights to health and food as the policy objective. Westerman (2008) (n 144) 42.

628 *Coalitieakkoord 2026-2030, Aan de Slag: Bouwen aan een beter Nederland* (D66, VVD and CDA, 30 January 2026); 'Kindermarketing van ongezond voedsel wettelijk ingeperkt' (*Rijksoverheid*, 9 December 2022) < https://www.rijksoverheid.nl/actueel/nieuws/2022/12/09/kindermarketing-van-ongezond-voedsel-wettelijk-ingeperkt> accessed 1 August 2025; 'Motie van het lid Krul C.S.' (Tweede Kamer der Staten-Generaal, 11 June 2025) < https://www.tweedekamer.nl/kamerstukken/moties/detail?id=2025Z11852&did=2025D27132> accessed 1 August 2025; 'Vertraging kindermarketing-wet: onvergeeflijk uitstelgedrag' (*Food Watch*, 22 April 2025) <https://www.foodwatch.org/nl/current-nieuws/vertraging-kindermarketing-wet-onvergeeflijk-uitstelgedrag> accessed 1 August 2025.

629 NRC (n 140); 'Over de Stichting Reclame Code (*Stichting Reclame Code*) < https://www.reclamecode.nl/over-de-src/over-de-src/> accesed 31 January 2025. All sources concerning the NRC and Dutch legislation and jurisprudence interpreted are published in Dutch. Therefore, all translations (quotes and paraphrases) in this analysis are translated by the author.

630 In discussing the general procedures that do not require differentiation between the general code and the special codes, this chapter refers to 'NRC' meaning both the general code and the special codes. RVV (2026).

631 E Venekatte, *Open normen in de reclame* (PhD dissertation: Universiteit Twente, 2002), 47.

632 The financial overview of 2019 does not indicate any income from the government, *Jaarverslag 2019* (Stichting Reclame Code) (hereinafter Jaarverslag 2019) 7.

consumers' organizations that have voluntarily joined the SRC.[633] Media institutions that broadcast advertising and teleshopping programs are legally obliged to join the SRC.[634] This results in a situation in which legislation obliges media institutions to bind themselves to rules of a private law nature, which are monitored and enforced by a private body. This body, the *Reclame Code Commissie* (Advertising Code Committee, RCC for its Dutch abbreviation), an organ of the SRC, has been found by the *Raad van State* (Counsel of State) not to be an administrative body.[635] Consequently, the decisions of the RCC may become binding to parties through private law.[636]

The SRC governs the instrument, as it has been appointed by the government to monitor and deal with complaints concerning advertisement.[637] Consumers can make complaints, which are heard by the RCC. The RCC can make recommendations if a violation is found, [638] and, if necessary, spread alerts.[639] After a decision of the RCC, parties have the opportunity to appeal.[640] In those cases, the *College van Beroep* (Board of Appeal, CvB for its Dutch abbreviation), an organ of the SRC, can confirm, reject or adjust the decision partially or completely.[641]

633 'Organisatie' (*Stichting Reclame Code*) <https://www.reclamecode.nl/over-de-src/organisatie/> accessed 4 July 2020; *De Nederlandse Reclame Code – Met Informatie over de Stichting Reclame Code en de Werkwijze van de Reclame Code Commissie en het College van Beroep & Jaarcijfers 2022 (Editie 2023)* (Stichting Reclame Code, 2023) 10, 14.

634 For Stichting Etherreclame (a foundation that allocates advertisement on national channels of the government) and regional and local media institutions: Mediawet Art. 2.92 para. 1; for commercial media institutions: Mediawet Art. 3.6. 'Over de Ster' (*Ster Reclame*) <https://www.ster.nl/over-ster/> accessed 22 March 2026.

635 In this regard, the *Raad van State* (Council of State) held that the SRC is not an administrative body ('bestuursorgaan'), neither as defined in Article 1.1a and Article 1.1b of the Algemene Wet Bestuursrecht, ECLI:NL:RVS:2014:1050, para. 4.2; Venekatte (n 613) 49.

636 Also see Section 4.1.2. Venekatte (2002) (n 631) 49.

637 Art 6.2 Wet handhaving consumentenbescherming; confirmed in ECLI:NL:RVS:2014:1040.

638 Reglement van de Reclame Code Commissie en het College van Beroep (hereinafter Reglement RCC en CvB) Art. 19 para. 1 sub c.

639 Reglement RCC en CvB (n 638) Art. 19 para. 1 sub f.

640 Reglement RCC en CvB (n 638) Art. 24.

641 Reglement RCC en CvB (n 638) Art. 27 para. 1. The Members of the CvB are independent members and cannot be a member of the RCC at the same time, ibid Art. 23.

3. STATE OBLIGATIONS FOLLOWING FROM THE RIGHT TO HEALTH AND FOOD

Human rights law is increasingly emphasized in the development of public health policies, for example in tobacco control and the HIV/AIDS movement,[642] encompasses well-recognized norms in the political arena and can serve as an accountability system for civil society.[643] Its inclusion can also require and strengthen the implementation of WHO recommendations and guidelines into the domestic legal order.[644] Human rights law, especially children's rights, has also been explored in the concrete context of food-related NCD prevention.[645]

3.1 The rights to health and food

Article 12(1) ICESCR stipulates 'the right of everyone to the enjoyment of the highest attainable standard of physical and mental health'[646] and Article 11(1) ICESCR provides for 'the right of everyone to an adequate standard of living for himself and his family, including adequate food'.[647] The child's right to health is established in Article 24(1) CRC, while appropriate measures to pursue full implementation include 'combatting […] malnutrition, including […] through the provision of adequate nutritious foods and clean drinking-water'.[648] Both General Comments Nos. 14 (on the right to health) and 12 (on the right to food) of the CESCR suggest that both rights are primarily tailored towards food security and access to food, i.e. combatting hunger.[649]

Nevertheless, the rights to health and food go beyond the prevention of starvation,[650] and extend to the underlying determinants of health, such as 'an adequate supply of safe food [and]

642 The right to health has been expressly recognized in the FCTC (n 82) preamble; 'The human rights dimension of tobacco control: a tool to advance the WHO FCTC implementation' (*WHO Framework Convention on Tobacco Control*) < https://www.who.int/fctc/mediacentre/news/2019/tobacco-control-human-rights/en/> accessed 17 June 2020. In the literature on tobacco control, the role of human rights has been emphasized as well, OA Cabrera and LO Gostin, 'Global Tobacco Control: a Vital Component of the Right to Health' in José M Zuniga, Stephen P Marks and Lawrence O Gostin (eds) *Advancing the Human Right to Health* (OUP 2013); Gispen and Toebes (2019) (n 190); C Dresler and S Marks, 'The Emerging Human Right to Tobacco Control' (2006) 28 Hum.Rts.Q 599; 'HIV/AIDS and human rights' (*World Health Organization and United Nations Office of the High Commissioner for Human Rights*) <https://www.ohchr.org/en/health/hivaids-and-human-rights> accessed 6 August 2025.

643 Patterson and others (2018) (n 119) 51.

644 K Ó Cathaoir, M Hartlev and C Brassart Olsen, 'Global health law and obesity: towards a complementary approach of public health and human rights law' in Gian Luca Burci and Brigit Toebes (eds) *Research Handbook on Global Health Law* (Edward Elgar Publishing 2018) 427; Ó Cathaoir and Hartlev (2020) (n 313) 59-60.

645 L Mills, 'Selling Happiness in a Meal: Serving the Best Interests of the Child at Breakfast, Lunch and Supper' (2012) 20 Intl J Child Rts 624; A Garde, S Davies and J Landon, 'The UK Rules on Unhealthy Food Marketing to Children' (2017) 8 EJRR 270; WHO Set of Recommendations (n 507); A Child Rights-Based Approach to Food Marketing: A Guide for Policy-Makers (n 452); Toebes and Patterson (2020) (n 202); Ó Cathaoir (2022) (n 280).

646 ICESCR (n 26) Article 12(1).

647 ICESCR (n 26) Article 11(1).

648 CRC (n 52) Art. 24(2)(C).

649 CESCR GC No. 12 (n 537); CESCR GC No. 14 (n 27).

650 CESCR GC No. 12 (n 537) para 6.

nutrition'.[651] In fact, nutrition constitutes an underlying determinant of health and unhealthy diets are recognized as a risk factor for NCD incidence.[652] Especially in light of the current food environment, characterized by an increased supply of HFSS food, [653] and the increased prevalence of overweight and obesity, also nutritional value of food constitutes an important component of the right to health.[654] In this regard, the Committee on the Rights of the Child has previously expressed concern[655] and recommended State action to prevent overweight and obesity in its Concluding Observations.[656] In response, a number of States reported to have taken measures to prevent obesity for their obligations under the right to health, which indicates States' recognition of such an obligation.[657]

Although CESCR GC No. 14 clarifies that States cannot protect individuals 'against every possible cause of human ill health', such as an unhealthy lifestyle,[658] CESCR illustrates that a violation of the obligation to protect the right to health, which imposes States with the task to protect individuals from interferences with their rights by third parties,[659] includes:

> 'the failure to protect consumers […] from practices detrimental to health, [… and] the failure to discourage […] marketing and consumption of tobacco, narcotics and other harmful substances'.[660]

This obligation may also require 'direct regulation and intervention', including the restriction of marketing and advertising of goods for the protection of public health.[661] According to former Special Rapporteur Anand Grover, States should protect the enjoyment of the right to health by regulating the advertising of 'unhealthy foods'.[662]Additionally, the obligation to fulfil the right to health requires Parties to 'adopt appropriate legislative, administrative, budgetary, judicial, promotional and other measures towards the full realization of the right to

651 CESCR GC No. 14 (n 27) para. 11.

652 CESCR GC No. 14 (n 27) para. 4.

653 Interim report of the Special Rapporteur on the right to food (n 553), para. 2; WHO Set of Recommendations (n 507) 4.

654 CESCR GC No. 14 (n 27) para. 10.

655 Including in the case of the Netherlands, see *Concluding observations on the fourth periodic report of the Netherlands* (Committee on the Rights of the Child 2015) UN Doc CRC/C/NDLCO/4, para 42(b).

656 KE Ó Cathaoir, *A Children's Rights Perspective on Obesogenic Food Marketing* (PhD thesis: University of Copenhagen, 2017) 254; see for example *Considerations of reports submitted by States parties under article 44 of the Convention – Concluding observations: Denmark* (Committee on the Rights of the Child 2011) UN Doc CRC/C/DNK/CO/4, paras 49-50; *Concluding observations on the combined fifth and sixth reports of Belgium* (Committee on the Rights of the Child 2019) UN Doc CRC/C/BEL/CO/5-6, para 34.

657 Ó Cathaoir (2017) (n 656) 254.

658 CESCR GC No. 14 (n 27) para. 9.

659 CESCR GC No. 14 (n 27) para 33; Mégret (n 194) 97-98.

660 CESCR GC No. 14 (n 27) para 51.

661 CESCR GC No. 24 (n 200) para. 19.

662 Special Rapporteur Report (Anand Grover, 2014) (n 280) paras. 22 and 25.

health',[663] and this concerns a positive obligation.[664] This obligation includes 'the promotion of […] information campaigns, in particular with respect to […] the abuse of alcohol and the use of cigarettes, drugs and other harmful substances'.[665] Regardless of whether HFSS food can be qualified as 'other harmful substances', it is meaningful that the obligation to fulfil points towards an obligation to facilitate or *promote* healthy behaviour, rather than restricting marketing practices, to the extent that they do not undermine individual's capacities to make informed choices.[666] This could imply that the obligation to fulfil could provide a ground to at least raise awareness on the health detriments of excessive HFSS food consumption, and also points towards an obligation to prevent the creation of an obesogenic food environment.

It must be highlighted that under the relevant rights, 'States are required to introduce into domestic law, implement and enforce internationally agreed standards concerning children's right to health',[667] such as standards set by the WHO. Accordingly, standards as the Set of recommendations on the marketing of food and non-alcoholic beverages to children (2010) and the more recent WHO guideline on Policies to protect children from the harmful impact of food marketing (2023) should be taken into consideration in interpreting relevant rights.[668] Finally, given that regulating advertising is not a resource-depleting activity for States, it may be interpreted to be an attainable step in the fulfilment of the rights to health and food and, as such, have a higher urgency.[669]

3.2 Human rights-based guidance: the assessment framework for domestic HFSS food advertising regulations

The question remains how HFSS food advertising should be regulated. Human rights law may also offer guidance in this regard. This sub-section particularly focuses on the three dimensions assessed in this chapter: 1) who holds regulatory power?; 2) which groups' protection is considered by the regulation?; and 3) what is regulated?

663 CESCR GC No. 14 (n 27) para 33.

664 CESCR GC No. 14 (n 27) para 37.

665 Note the inclusion of two other NCD risk factors, CESCR GC No. 14 (n 27) para. 36.

666 WA Bogart, *Regulating Obesity? Government, Society and Questions of Health* (OUP 13), 31, 38; Garde and others (2018) (n 467) 19.

667 CRC GC No. 15 (n 44), para. 44.

668 WHO Set of Recommendations (n 507); WHO Food marketing guideline (n 74).

669 CESCR GC No. 3 (n 221) para. 9 and 12; CESCR GC No. 14 (n 27) para. 18; Mollet (2025) (n 31); Chapter 3 of this dissertation.

In the context of *actors holding regulatory power*, it must be noted that in practice a number of States, including the Netherlands,[670] have resorted to self-regulatory schemes .[671] This means that not the government, but the industry itself is designated to regulate its own (advertising) practices.[672] Self-regulatory constructions addressing HFSS food advertising are argued to be ineffective, especially in their norm-setting capacities.[673] Through self-regulation, the industry can set common rules to protect its own commercial benefits,[674] causing 'a fundamental and irreconcilable conflict' between the interests of the industry and the overall protection of public health.[675] An alternative to self-regulation is a public-private partnership,[676] although this is not ideal either, as problems of transparency and conflicts of interests may still arise.[677] HFSS food advertising is optimally regulated through statutory regulation. [678] In his report, former Special Rapporteur on the right to health, Anand Grover, highlights the positive obligation of States to regulate food advertising and promotion strategies of the food industry, especially as:

> '[t]he responsibility to protect the enjoyment of the right to health warrants State intervention in situations when third parties, such as food companies, use their position to influence dietary habits by directly or indirectly encouraging unhealthy diets, which negatively affect people's health'.[679]

In this regard, the Special Rapporteur highlights that self-regulation nor public-private partnerships manage to sufficiently promote public health and recommends laws and a regulatory framework formulated by States themselves.[680]

670 'Wie zijn we' (*Stichting Reclame Code*) <https://www.reclamecode.nl/over-de-src/over-de-src/> accessed 25 March 2026.

671 Special Rapporteur Report (Anand Grover, 2014) (n 280) para 23; *State of the World's Children 2019: Children, Food and Nutrition: Growing Well in A Changing World* (UNICEF 2019) 145; *Evaluating implementation of the WHO Set of Recommendations on the Marketing of Foods and Non-Alcoholic Beverages to Children – Progress, challenges and guidance for next steps in the WHO European Region* (Regional Office for Europe of the World Health Organization, 2018).

672 Bogart (n 666) 133.

673 Y Kovic, JK Noel, JA Ungemack and JA Burleson, 'The impact of junk food marketing regulations on food and sales: an ecological study' (2018) 19 Obes Rev. 761, 766.

674 Protecting Children's Right to a Healthy Food Environment (n 467) 12; State of the World's Children 2019 (n 654)154.

675 *Guidelines for implementation of Article 13 of the WHO Framework Convention on Tobacco Control (Tobacco advertising, promotion and sponsorship)* (Conference of the Parties 2008) decision FCTC/COP2(12) para 13. This source concerns tobacco control but is similarly relevant to the context discussed in this dissertation.

676 WHO Set of Recommendations (n 11) Recommendation 6; Special Rapporteur Report (Anand Grover, 2014) (n 280) para 24.

677 Special Rapporteur Report (Anand Grover, 2014) (n 280) para. 24.

678 Special Rapporteur Report (Anand Grover, 2014) (n 280) para. 27.

679 Special Rapporteur Report (Anand Grover, 2014) (n 280) para. 25.

680 Special Rapporteur Report (Anand Grover, 2014) (n 280) paras. 22-25.

In setting norms, States are responsible for adequately balancing the different interests present in society. Besides the rights to health and food, States are also under an obligation to protect the 'best interest of the child', as stipulated in Article 3 CRC.[681] This provision is characterized as one of the fundamental values of the CRC, and is a general principle for interpreting and implementing all rights provided for in the CRC, including the right to health.[682] The rule of procedure arising from the best interest of the child indicates that decisions affecting children need to be taken with special diligence.[683] It also requires States to have procedural guarantees that ensure that children's best interest is explicitly recognized in balancing interests, whether that be in the context of individual cases or broader policies.[684] States need to keep the right to health of children and adolescents as a primary consideration in the construction of policies,[685] an obligation that is not met when industries regulate their own advertising practices and are thereby in a position to favour their own interests over the fulfilment of the right to the highest attainable standard of health.

In the context of the second dimension, *which groups' protection is considered by regulation*, it is clear that at least children should be protected from HFSS food advertising. Under the obligation to protect the right to health under the ICESCR, a broader obligation to also consider adults in HFSS food advertising regulation may be identified.[686] Additionally, the CRC provides a ground to argue that HFSS food advertising regulation should go beyond advertising targeting children. This is based on the assumption that parents and caregivers greatly impact children's health.[687] Under the CRC, parents and caregivers have the 'primary responsibility for the upbringing and development of the child', and in executing this responsibility, they should be supported by the State.[688] Although parents are primarily responsible for their children's health, the State is responsible for setting the wider environment in which living conditions for children are created.[689] So, even if advertising is only targeted at adults, this potentially still interferes with their 'abilities to uphold their children's rights', as their judgments may be affected by the advertising strategies.[690] Following this reading, a children's

681 CRC (n 52) Art 3.

682 CRC GC No. 14 (n 335) para. 1.

683 CRC GC No. 14 (n 335) para. 6(c); Ó Cathaoir (2017) (n 656) 252.

684 CRC GC No. 14 (n 335) para 6(c).

685 CESCR GC No. 14 (n 27) para 24; see also CRC (n 52) Art 3.

686 Special Rapporteur Report (Tlaleng Mofokeng, 2023) (n 125) para. 94(k); Special Rapporteur Report (Anand Grover, 2014) (n 280), paras. 15, 22, 25, 63(f);

687 CRC GC No. 15 (n 44) para 6, 18.

688 CRC (n 52) Arts 18(1) and 18(2); J Tobin, 'Beyond the Supermarket Shelf: Using a Rights Based Approach to Address Children's Health Needs' (2006) 14 Int'l J. Child Rts 275, 283-285; A Garde, S Byrne, N Gokani and B Murphy, 'For a Children's Rights Approach to Obesity Prevention: The Key Role of an Effective Implementation of the WHO Recommendations' (2017) 8 EJRR 327, 329.

689 CRC GC No. 15 (n 44) para 78; Ó Cathaoir (2017) (n 656) 160.

690 Ó Cathaoir (2017) (n 656) 160.

rights-based approach optimally requires not only HFSS food advertising targeted at children to be regulated, but advertising targeted at adults as well.

The third dimension concerns *media sources to be regulated*. General Comment No. 4 of the Committee on the Rights of the Child on Adolescent Health and Development in the Context of the CRC confirms that ensuring a safe and supportive environment, including the wider environment constructed by, among other actors, the media, is required to guarantee the health and development of adolescents.[691] General Comment no. 25 of the Committee on the Rights of the Child on the rights of children in the digital world emphasizes that children should be protected from targeted or inappropriate digital advertising and services, and that '[s]uch regulations relating to the digital environment should be compatible and keep pace with regulations in the offline environment.'[692] Accordingly, States are under the obligation to extend effective protection from both on- and offline unhealthy food advertising, particularly to children. Finally, States are encouraged to deploy digital technologies to promote healthy lifestyles.[693]

4. DUTCH FOOD ADVERTISING REGULATION: SWISS CHEESE INSTEAD OF A FIRM GOUDA

This section assesses the current regulatory system's inclusiveness against the human rights framework constructed above, particularly in the context of HFSS food advertising. In other words, it aims to highlight the gaps in the Dutch system's protection against the rights to health and food. This section is structured along the lines of the three dimensions assessed.

4.1 Which parties hold regulatory power?

Self-regulatory instruments are widely criticized,[694] and States should seek for alternative forms of regulation, preferably statutory regulation, to ensure adequate balancing of inter-

691 *General Comment No. 4: Adolescent Health and Development in the Context of the Convention on the Rights of the Child* (Committee on the Rights of the Child, 1 July 2003) UN Doc CRC/GC/2003/4 para. 10.

692 *General comment No. 25 (2021)on children's rights in relation to the digital environment* (Committee on the Rights of the Child, 2 March 2021) CRC/C/GC/25 para. 97.

693 CRC GC No. 25 (n 692) para. 97.

694 Including the Dutch one. See, for example, 'Zelfregulering? Wetgeving!' (*Foodwatch*, 2 May 2024) < https://www.foodwatch.org/nl/onze-campagne-themas/onze-campagnes/voeding-en-gezondheid/zelfregulering-wetgeving> accessed 28 January 2026; 'Stop kindermarketing voor ongezond eten en drinken' (*De Gezonde Generatie*) < https://www.gezondegeneratie.nl/stopkindermarketing/> accessed 28 January 2026; 'Stop kindermarketing' (*Unicef Nederland*) <https://www.unicef.nl/samenwerken/allianties/stop-kindermarketing> accessed 28 January 2026. Responses to the introduced amendments can be found in M Kamsma, 'De industrie komt met een code voor kindermarketing. Werkt dat? (*NRC Handelsblad*, 22 Janaury 2026) < https://www.nrc.nl/nieuws/2026/01/22/de-industrie-komt-met-een-code-voor-kindermarketing-werkt-dat-a4918372> accessed 28 January 2026.

ests.[695] Statutory regulation allows for: 1) norm-setting ensured by a government, supposedly less driven by commercial interests than self-regulating schemes; and 2) binding judgments delivered by designated courts. Accordingly, the analysis presented in this sub-section is two-fold: it first assesses who set(s) the norms of the NRC, followed by an assessment of the NRC's enforcement mechanism.

4.1.1 Norm-setting

With a self-regulating industry, the content of the NRC is not determined by the Dutch government. As its goal, the SRC states that the NRC promotes the creation of responsible advertising, with the objective to maintain and strengthen consumers' trust in advertising.[696] The NRC includes general codes and theme specific codes, such as the RVV and the *Kinder- en Jeugdreclame code* (Advertising code for Children and Youth, KJC for its Dutch abbreviation).[697]

The RVV includes provisions concerning the nutritional values of advertised food products. For instance, it mandates that statements concerning flavour, portion sizes and potential contributions of the advertised food product to a healthy diet should be correct and complete (Article 1); requires compliance with the *Richtlijnen Goede Voeding* (Guidelines for Good Nutrition) set by the Gezondheidsraad (Health Council), an independent scientific advisory body,[698] for advertising of food as a part of a meal and differentiates between children and adults (Article 5); prohibits the display and encouragement of excessive food consumption (Article 6); and restricts advertising targeting children and young persons (Article 8).[699] Its provisions and their subsequent interpretations nevertheless indicate they are limited concerned with (nutrition-related) NCD prevention, and rather with consumer protection in general.

The recent amendments to the RVV substantially changed the content of Article 8, of which the first paragraph generally prohibits food advertising targeting children.[700] Whereas the previous provision prohibited food advertising targeting children up to and including 12 years old,[701] it now generally prohibits advertising to all children (persons aged 12 years and younger) and young persons (persons aged 13 to 16).[702] The existing three exceptions to the rule under the RVV have also been reinforced. It is particularly the third exception that has

695 Some examples include: WHO Set of Recommendations (n 507); Special Rapporteur Report (Grover, 2014) (n 280) para 23-25; O Bartlett and A Garde (2013) (n 506) 508-510.

696 Translated from Dutch, Over de Stichting Reclame Code (n 629).

697 RVV (2026) (n 509); Kinder- en Jeugdreclame Code (hereinafter KJC).

698 'Over ons' (*Gezondheidsraad*) <https://www.gezondheidsraad.nl/over-ons> accessed 13 October 2025.

699 RVV (2026) (n 509) Arts. 1, 5-6, 8.

700 RVV (2026) (n 509) Art. 8.

701 Reclamecode voor Voedingsmiddelen 2019) (hereinafter RVV (2019)) Art. 8.

702 RVV (2026) (n 509) Begripsbepalingen (c) and (d) and Art. 8 Para. 1.

been changed: advertising targeting young persons between the ages of 13 and 16 for foodstuffs that comply with the nutritional criteria and that comply with the requirements under the EU's Health and Nutrition Claims Regulation and cumulatively meet the requirements for the claims of 'low sugars', 'low saturated fat' and 'low salt' are now permitted.[703] In the previous version, the exception applied to all advertising targeting children and young persons (no age limits) and the second requirement, to cumulatively meet the conditions for 'low sugars', 'low saturated fat' and 'low salt' under the EU Regulation, did not exist previously.[704]

The second paragraph of the amended RVV prohibits the use of children's and young people's idols in advertising targeting children and young persons under the age of 16 in food advertising, and provides for similar exceptions.[705] Previously, this prohibition was only applicable to the use of children's idols targeting children below the age of 7.[706] It must first be noted that the definition of 'children's and young people's idol' has been broadened: influencers have now been explicitly included, as well as persons (including drawn or animated figures) that have been developed for children and young people (social) media.[707] Despite some improvement, this definition, however, still expressly excludes drawn or animated figures developed by the advertiser, as well as 'branded characters', i.e., characters that are directly connected to the specific product or brand.[708]

The general provisions of the RVV beyond those addressing advertising targeted at children, i.e. the ones granting protection from exposure to HFSS food advertising to children above the age of 12 and adults,[709] are not extensive either. Article 6 RVV states that advertising may not demonstrate excessive consumption of a particular food product or explicitly push individuals to excessive consumption.[710] The phrasing and previous interpretations of this provision, however, demonstrate that it is limited to the prohibition of the promotion of excessive consumption (so the product itself may still be advertised as long as the advertisement does not promote its excessive consumption), and does not consider nutritional properties of the food in and of itself.[711] Therefore, this merely limits the manner of consumption (e.g. 'not

703 RVV (2026) (n 509) Art. 8 para. 1. For the definitions of these terms, please consult Nutrition and Health Claims Regulation (n 503)Annex.

704 RVV (2019) (n 701) Art. 8, Para. 1 (a-c); RVV (2026) (n 509) Art. 8 Lid 1(c).

705 RVV (2026) (n 509) Art. 8 Para. 2.

706 RVV (2019) (n 701) Art. 9 Para. 1.

707 RVV (2026) (n 509) Begripsbepalingen (f).

708 RVV (2026) (n 509) Begripsbepalingen (f), toelichting.

709 See the section 'Which groups' protection is considered by the regulation?' for a more elaborate discussion on age-related concerns.

710 RVV (2026) (n 509) Art 6.

711 An example of a case assessing Article 6 RVV is 2012/00583 (Reclame Code Commissie, 23 Juli 2012). The relevance of this case is, however, limited for the present research, since it was assessed in combination with the Code voor Zoetwaren, which ceased to exist in 2015, 'Code voor Zoetwaren vervalt per 1 juli 2015' *(NDP Nieuwsmedia*, 1 July 2015) <https://www.ndpnieuwsmedia.nl/2015/07/01/code-voor-zoetwaren-vervalt-per-1-juli-2015/> accessed 8 July 2020.

excessive') promoted, rather than the promotion of certain products, such as HFSS food products, themselves.

Furthermore, Article 4 of the general code (NRC) states that advertisement may not be needlessly hurtful to individuals or contain a threat to mental and/or physical public health.[712] Violations have largely been found in cases of advertisement immediately affecting human health, such as proposing homeopathic medication over prescribed medication and discommending vaccinations.[713] An example case concerned the advertising of healthy, sugar-free lemonade on a website. The complaint concerned a threat to public health under Article 4, as the products allegedly promoted contained unhealthy substitutes of sugar, and therefore posed a threat to public health. [714] The CvB did not examine the alleged breach of Article 4, but assessed on its own motion whether the advertisement concerned was misleading, as prohibited under Article 7 of the general code.[715] Therefore, it appears that Article 4 is not considered to be a provision protecting individuals from HFSS food advertising. This can similarly be interpreted to imply that HFSS food advertising is not automatically considered to contain a threat to public health.

It is important to note the status of EU law in the present context. This body of legislation, which is constitutive for the content of domestic regulation, requires Member States to meet certain standards in their regulation of alcohol and tobacco products' advertising: for alcohol, audiovisual advertising should comply with a number of criteria set in Article 22 of the EU's AVMSD, while the EU's Tobacco Advertising Directive (TAD) requires the prohibition of almost all forms of tobacco products' advertising.[716] While EU law sets standards for the advertising of alcohol and tobacco products, it states in the context of food advertising that:

> 'Member States shall *encourage the use of co-regulation and the fostering of self-regulation through codes of conduct* […] regarding inappropriate audiovisual communications, accompanying or included in children's programs, for foods and beverages containing nutrients and substances with a nutritional or physiological effect, in particular fat, trans-fatty acids, salt or sodium and sugars, of which excessive intakes in the overall diet are not recommended.
>
> Those codes shall aim to effectively reduce the exposure of children to audiovisual commercial communications for such foods and beverages. They shall aim to provide

712 Translated by the author from NRC (n 140) Art 4.

713 Most of these cases involved advertisements discommending vaccination and the use of non-traditional medicines. See for example, *2016/00693* (Reclame Code Commissie, 22 December 2016); *2016/00548* (Reclame Code Commissie, 28 July 2016).

714 *2014/00422* (Reclame Code Commissie, 1 September 2014).

715 *2014/00422* (Reclame Code Commissie, 1 September 2014); NRC (n 140) Art 7.

716 AVMSD (n 505) Art. 22; TPD (n 82) Arts. 3 and 4.

> that such audiovisual commercial communications do not emphasise the positive quality of the nutritional aspects of such foods and beverages.'[717]

This legislation has accordingly been criticized in the past to support Member States in implementing WHO recommendations.[718]

Although adequate nutrition in the context of food advertising is considered in the NRC, particularly when it comes to children, public health interests in the context of nutrition-related NCDs are *de facto* insufficiently protected by the RVV. This means that the government, by sustaining this system, allows for the protection of commercial interests over the protection of public health interests. Particularly in the context of children's right to health, States should ensure children are of primary consideration when '[…] weighing competing priorities, such as short-term economic considerations and long-term development decisions.'[719] In regulating HFSS food advertising States should preclude the possibility of having economic considerations prevail over the best interest of the child, which is likely to happen if, among other actors, advertisers govern advertising regulations of HFSS food. Accordingly, the current regulatory system is underinclusive to the standard set by the human rights framework derived from the rights to health and food in terms of norm-setting.

4.1.2 Enforcement

Compliance with the NRC's rules can be assessed by the RCC through its complaint mechanism.[720] The RCC consists of five members: a chairman and four members, each representing a constituent branch of the SRC.[721] Generally, the complaint mechanism is open for any individual or company that wants to bring a complaint. [722] Media institutions associated with the NRC must report advertising, which they reject for broadcasting or publication for reasons of inconsistency with the NRC.[723] Moreover, the RCC may assess advertisements on its own motion.[724]

717 Emphasis added, AVMSD (n 505) Art. 9(4). Also see Chapters 4 and 6 of this dissertation on the AVMSD.

718 Bartlett and Garde (2017) (n 491).

719 *General Comment No. 16 (2014) on State obligations regarding the impact of the business sector on children's rights* (Committee on the Rights of the Child, 2013) UN Doc. CRC/C/GC/16, para 17.

720 Reglement RCC en CvB (n 638) Hoofdstuk 2.

721 The branches are the branches of Advertisers, Channels, Creation, Consumers and Society, ibid Art 2 lid 1. The chairman is an independent member, usually a judge or other expert with judicial experience, 'Klachtenprocedure' (*Stichting Reclame Code*) <https://www.reclamecode.nl/klacht-indienen/klachtenprocedure/#d.-de-zitting> accessed 13 August 2025.

722 Reglement RCC en CvB (n 638) Art 6 para. 1.

723 Reglement RCC en CvB (n 638) Art 20 para. 1.

724 Reglement RCC en CvB (n 638) Art 9.

Once an alleged breach has been reported, the NRC's chairman makes a first assessment of the case and may reject the complaint on multiple grounds.[725] If this is not the case, the complaint will be forwarded to the advertiser, who may respond to the complaint within, in principle, 14 days.[726] The chairman can then decide to individually assess the case or forward it to the full RCC.[727] Substantively, the RCC can reject the case, find a violation and make a (non-binding) recommendation, or decide that the case is not admissible.[728] In the case of serious violations, the RCC can decide to spread an 'alert', besides the usual publication of decisions on the NRC's website.[729] After a decision of the RCC, parties have the opportunity to appeal (including when the Chairman or RCC has rejected the complaint).[730]. The CvB can then confirm, reject or adjust the decision partially or completely, or return the complaint to the RCC.[731] In case the CvB finds or confirms a violation, it can also spread an 'alert'.[732] Besides requiring the payment of complaint fees,[733] the enforcement mechanism does not allow for imposing fines.

If the RCC or CvB decides that the advertisement concerned constitutes a breach of a provision of the NRC, the Compliance department of the SRC contacts advertisers to ask whether they will implement the decision.[734] If the respondent party responds in the affirmative, the department does not assess whether the party will actually implement it.[735] It is only after a later complaint that the chairman, RCC or CvB assesses whether the advertiser really brought the breach in compliance.[736] If the advertiser does not respond to the Compliance department or refuses to implement the decision and make the advertisement compliant, the company will be marked as non-compliant and will appear in the non-compliance list, available for the public on the website of the SRC and in publications of the SRC.[737] A notification will also be sent to the *Autoriteit Consument en Markt* (Netherlands Authority for Consumers and Market), which may investigate misleading commercials and impose fines.[738] Advertisers can

725 Reglement RCC en CvB (n 638) Art 11 para. 1.

726 Reglement RCC en CvB (n 638), Art. 10 para. 1 and 4.

727 Reglement RCC en CvB (n 638) Art. 11 para. 1.

728 Reglement RCC en CvB (n 638) Art. 19, para. 1, subs b, c and e.

729 Reglement RCC en CvB (n 638) Art. 19, para. 1 sub f; 'Uitspraken Zoeken' (*Stichting Reclame Code*) < https://www.reclamecode.nl/uitspraken/uitspraken-zoeken/> accessed 13 August 2025.

730 Reglement RCC en CvB (n 638) Art 24 para. 1.

731 Reglement RCC en CvB (n 638) Art. 27 para. 1, sub b.

732 Reglement RCC en CvB (n 638) Art. 27 para. 2.

733 Reglement RCC en CvB (n 638) Art. 11, para. 3 sub a; Art. 19 para. 1 sub a; Art. 27 para. 1 sub a.

734 Reglement RCC en CvB (n 638) Art. 32 para. 1 and 2.

735 Jaarverslag 2019 (n 614) 40.

736 Jaarverslag 2019 (n 614) 40.

737 Reglement RCC en CvB (n 638) Art. 33 para. 2.

738 Reglement RCC en CvB (n 638) Art. 33 para. 3; Jaarverslag 2019 SRC (n 263) 40.

still reverse its non-compliance markings before the end of the calendar year, by providing the Compliance department with information on how they will implement the decision.[739]

In its Set of Recommendations, the WHO has stated that domestic regulation of HFSS food advertising must have 'a monitoring system to ensure compliance with the objectives set out in the national policy'.[740] The Netherlands has not fully implemented this. Compliance is not necessarily assured, as after a decision of the chairman, RCC or CvB, advertisers may as well indicate they will make non-compliant advertising in compliance with the decision without doing so. It must be noted, however, that in practice some cases are settled by the parties when advertisers ensure conformity of their advertising with the NRC's provisions, even prior to the chairman or RCC's conclusions.[741]

Furthermore, the WHO clarified that there should not be potential conflicts of interests in the bodies monitoring compliance and evaluating regulation.[742] If cases are being decided by the RCC, a clear conflict of interest remains, as only one member is independent, while four of the members of the RCC are representatives of the branches, including one representing advertisers.[743] This similarly indicates that the NRC is *underinclusive* in its enforcement: enforcement is not secured with adequate monitoring, and if cases are brought, there is a high chance of conflict of interests.

4.2 Which groups' protection is considered by the regulation?

As stated above, the NRC consists of a general code and a number of special codes. For the purpose of the research object of this section, the provisions of the general part of the NRC and the special codes of RVV and KJC are relevant.[744] This subsection submits that although there is some regulation of HFSS food advertising targeting children, which has also recently been reinforced, there is hardly any protection for adults.

Article 2(1) KJC states that advertising may not impose moral or physical damage on children.[745] Therefore, advertising targeted at children must comply with several criteria, such as not taking advantage of their lack of experience.[746] This mainly focuses on transparency and fairness rather than the protection of health. As discussed above, Article 8.1 RVV more

739 'Non-Compliant' (*Stichting Reclame Code*) <https://www.reclamecode.nl/uitspraken/non-compliant/> accessed 5 July 2020.

740 WHO Set of Recommendations (n 507) Recommendation 10.

741 See, for example, 2024/00660 (Voorzitterstoewijzing, 3 February 2025); 2024/00661 (Voorzitterstoewijzing, 3 February 2025); 2024/00662 (Voorzitterstoewijzing, 3 February 2025).

742 WHO Set of Recommendations (n 507) para. 27.

743 Reglement RCC en CvB (n 638) Art. 2 para. 1.

744 NRC (n 140); RVV (2026) (n 509); KJC (680). The recent amendments to the RVV are taken into consideration, although the original research for this section was carried out prior to its announcement.

745 KJC (n 697) Art. 2 para. 1.

746 KJC (n 697) Art. 2 para. 1(a).

explicitly prohibits the advertising of certain food products to children. It allows for three exceptions: 1) advertising created in collaboration with or supported by the government or another renowned authority in the field of nutrition, health and/or physical activity; 2) packaging and point-of-sale materials; and 3) advertising targeting young persons between the ages of 13 and 16 for foodstuffs that comply with the nutritional criteria and that comply with the requirements under the EU's Health and Nutrition Claims Regulation that cumulatively meet the requirements for the claims of 'low sugars', 'low saturated fat' and 'low salt'.[747]

Advertising using children and young persons' idols targeting children and young persons below the age of 16 may not be used in advertising for foodstuffs, including packaging and point-of-sale materials.[748] This prohibition allows for the exception that idols targeting young people between the ages of 13 and 16 may be displayed in advertising if the product complies with the nutritional criteria and that comply with the requirements under the EU's Health and Nutrition Claims Regulation that cumulatively meet the requirements for the claims of 'low sugars', 'low saturated fat' and 'low salt'.[749] In this case, the idol may not actively promote a product and/or directly connected services.[750] Finally, the prohibition does not apply to advertising targeting children that is created in collaboration with or supported by the government or another renowned authority in the field of nutrition, health and/or physical activity.[751]

This demonstrates some improvement as compared to the previous RVV, which previously prohibited food advertising to children of 12 years and younger (providing for some exceptions) and prohibited the use of idols to children below the age of 7 (providing for some exceptions).[752] There are nevertheless still some shortcomings in the amended provisions.

At the essence of regulation, definitional concerns remain. The previous RVV solely defined children, being 'persons of 12 years and below'.[753] The amendments to the RVV add the term young persons and thereby differentiate between children and young persons, which are respectively defined as persons of 12 years and below and persons between 13 and 16 years of age.[754] This inherently demonstrates a persisting inadequacy and gap when compared to the definition of a child under Article 1 CRC: 'a child means every human being below

747 RVV (2026) (n 509) Art. 8 para. 1. For the definitions of these terms, please consult Nutrition and Health Claims Regulation (n 503) Annex.

748 RVV (2026) (n 509) Art. 8 para. 2(a).

749 RVV (2026) (n 509) Art. 8 para. 2. For the definitions of these terms, please consult Nutrition and Health Claims Regulation (n 503) Annex.

750 RVV (2026) (n 509) Art. 8 paras. 2(b) and (d).

751 RVV (2026) (n 509) Art. 8 para. 2(c).

752 RVV (2019) (n 701) Art. 8 para. 1 and Art. 9 para. 1.

753 RVV (2019) (n 701) Begripsbepalingen (c).

754 RVV (2026) (n 509) begripsbepalingen (c-d).

the age of eighteen years unless under the law applicable to the child, majority is attained earlier'.[755] Accordingly, the protection of the RVV does not extend to all children. Children's rights, furthermore, also provide an argument to extend some level of protection to adults. Article 18 CRC strikes a balance between the responsibilities of parents and guardians, and the State. While parents are primarily responsible for the 'upbringing and development of the child', States must provide them with appropriate assistance.[756] The fact that children are largely dependent on their parents' dietary decisions gives rise to the argument that States can provide appropriate assistance for the healthy development of the child by also reducing the attractiveness of HFSS food for adults. This highlights the shortcoming of the revised RVV: children (in the language of the CRC) above the age of 16 and adults are largely at free range to be targeted by food advertising. Although the broadened age range considered in the RVV is welcome, its limitation to the age of 16 is unfortunate.

Accordingly, the NRC is *underinclusive* in the subjects that are protected from HFSS marketing. With its limited definitions, it excludes a large part of the population, including a group of children, from protection from HFSS food advertising. Additionally, advertisers are more limited in their strategies to advertise their food products to children, although some gaps persist: advertising on packaging and point-of sale materials is still permitted, as well as branded characters. In this light, there is still room for improvement, for the NRC to ensure the fulfilment of the rights to health and food.

4.3 Which media are regulated?

The NRC and its special codes are applicable to all advertising, which is defined as:

> 'any public and/or systemic direct or indirect promotion of goods, services and/or ideas by an advertiser, either wholly or partly for their benefit, with or without the assistance of third parties. Advertising also includes the solicitation of services'.[757]

The NRC's applicability to advertising is irrespective of the transmission medium used, unless explicitly stated in the NRC.[758] This thus means that the rules of the NRC's general and specific code are applicable to all advertising, regardless of the medium used, unless explicitly stated. Accordingly, *prima facie* it appears that the NRC is inclusive in terms of the media sources covered.

This section considers the *Reclamecode Social Media & Influencer Marketing* (Advertising Code for Social Media and Influencer Marketing, RSM for its Dutch abbreviation) updated

755 CRC (n 52) Art. 1. Under Dutch law, majority is not attained earlier, Burgerlijk Wetboek 1, Art. 233.

756 CRC (n 52) Art. 18.

757 NRC (n 140) Art. 1.

758 'Algemene Deel' (*Stichting Reclame Code*) <https://www.reclamecode.nl/nederlandse-reclame-code/algemeen-deel/> accessed 13 August 2025.

in 2022.[759] It sets out the rules governing advertising on social media and influencer marketing. The RSM establishes transparency requirements, requiring '#ad' or other recognizable phrases for online advertising in, for example, podcasts, social media posts and Snapchat stories,[760] but also explicitly states that if social media advertising targets children, the KJC is applicable.[761] This Code does not indicate whether certain products may or may not be advertised on social media or via influencer marketing. Therefore, it does not necessarily add any substantive rules to HFSS food advertising on social media or via influencer marketing. The RVV thus remains the central point of this analysis.

It must be reiterated in this context that the (child's) right to health requires digital advertising regulations to keep pace with regulations in the offline environment.[762] Paragraph 4 of Article 8 of the amended RVV describes what is understood by the 'advertisement of food targeted at children and young people': advertisements broadcasted in media, which, according to generally accepted studies on outreach: 1) specifically target children and young people of 16 years and below; or 2) do not specifically target children and young people of 16 years and below, but at least 25% of the viewers are children and young people of 16 years and below.[763] In case generally accepted studies on outreach have not been established for specific communications, other factors can be taken into consideration.[764] This could be the case for communications on digital platforms. In case a user profile needs to be determined, a non-exhaustive list of factors is mentioned that can contribute to understanding whether a communication is targeting children, such as the use of language, design, games and playful activities, as well as child- and young people's idols.[765] A non-exhaustive and indicative list demonstrates the lack of clear, coherent regulation, which is uniform among platforms. The regulation of HFSS food marketing has thus not sufficiently kept up with the pace of development of the media platforms used for advertising and can consequently be labelled as 'underinclusive' in the framework applied in this chapter.

759 An updated version of the RSM came into effect on 1 July 2026, after the research for this dissertation had been carried out. Some of the most important amendments to the RSM include clarifications on due diligence obligations of advertisers in the context of influencer advertising, a clarification on the definition of user generated content-creators and clearer guidelines on how to report the nature of the collaboration between influencers and advertisers. For more information, please consult 'Update regels voor influencers en online content creaters' (*Stichting Reclame Code*, 1 July 2026) < https://www.reclamecode.nl/nieuws-agenda/nieuws/update-regels-voor-influencers-en-online-content-creators/> accessed 6 July 2026.

760 Reclamecode Social Media & Influencer Marketing (hereinafter RSM) Art. 3.

761 RSM (n 760) Art. 5.

762 CRC GC No. 25 (n 692), para. 97.

763 RVV (2026) (n 509) Art. 8 para. 4 a and b.

764 RVV (2026) (n 509) Art. 8 para. 4 Toelichting.

765 RVV (2026) (n 509) Art. 8 para. 4 Toelichting.

5. CONCLUDING REMARKS: HUMAN RIGHTS-BASED RECOMMENDATIONS FOR THE DUTCH REGULATION OF FOOD ADVERTISING

The above analysis has indicated that the Dutch regulatory system for HFSS food advertising is underinclusive to the framework of the rights to health and food as constructed in the third section of this chapter on all three accounts assessed.

In terms of the first dimension, namely *which parties hold regulatory power*, the self-regulatory system inherently holds a conflict of interest in both its norm-setting and enforcement components. As a consequence, the protection of public health and nutrition-related NCD prevention is not an explicit objective or of (primary) interest of the regulatory regime – which is underinclusive to the human rights framework established. When it comes to the second dimension, namely *which groups' protection is considered*, adults' and children above the age of 16's rights to health and food are not adequately ensured in the current regulatory scheme – the human rights framework requires especially adequate protection for all children, while adults should also be protected to some extent. Finally, the Dutch regulatory scheme is also underinclusive to the human rights framework established in terms of *types of media covered*. Although online advertising is subject to the same rules as offline advertising, this regulation is not adequately ensured in practice – thereby leaving gaps in the online world and as such being underinclusive to the standards set by the human rights framework.

In following its ambition to adopt statutory regulation of HFSS food advertising, the Dutch government should address all three accounts addressed in this chapter:

1) *Which parties hold regulatory power* – to ensure that interests are adequately balanced, there should be no conflict of interests. Concretely, statutory legislation should be adopted, in which the State adequately balances public health and the best interest of the child with other interests, including commercial ones.
2) *Which groups' protection is considered* – the statutory legislation should primarily ensure the adequate protection of all children. Additionally, beyond protecting adults from a consumer protection perspective, their rights to health and food should also be considered in regulation, as well as their possible responsibilities as parents.
3) *Which media are regulated* – the level of public health protection in the offline world set by the statutory legislation should equally extend to the online world – especially when it concerns content targeting children. This requires clear and coherent guidelines to determine what kinds of commercial communications are permitted on which platforms to which audience.

In developing legislation, the Dutch government should make use of the extensive guidance that exists within the framework of the right to health, as well as the recommendations provided by the WHO.

PART III

INTERFACE III – EU PUBLIC HEALTH LAW: STUDYING EU LAW AS A FACTOR IN THE CAUSE AND PREVENTION OF NCDS

The chapter of Part III studies EU law as a factor in the cause and prevention of NCDs. It particularly focuses on the body of law that regulates tobacco products, products containing alcohol and (unhealthy) food products – three categories of products that have been identified to be among the roots of the (increasing) prevalence of NCDs. Whereas Part I of this dissertation focused on dental caries (oral health) and Part II focused on food environments as one of the (indirect) drivers of poor health outcomes, Part III zooms out even more, and considers NCDs more generally. The reason why this part is not limited to dental caries, oral NCDs or food environments, and rather centres on the regulation of tobacco and alcohol, is that many relevant insights for the present dissertation and the area of EU public health law research can be drawn from these other NCD risk factors and, as such, serve an illustrative purpose. The present part aims to answer the fourth sub-question of this dissertation: *how can EU primary and secondary law impact the incidence of NCDs, including the incidence of dental caries (or the prevention thereof)?* Its aim is to inform EU lawyers, beyond the legal scholars that are concerned with public health in the EU, about the relevance and potential of their expertise for the promotion of public health.

Abstract and key words

Chapter 6 - EU Public Health Law in the Context of NCDs: A Though Nut to Crack

Although the (legislative) competences of the EU are limited in the policy area of public health and NCD prevention, EU legislation has a great impact on the health of the 450 million persons living in the EU. This chapter recognises that EU legislation is not always, or often not, necessarily adopted for reasons of public health but contends that EU law should still be studied as a body of public health law. The importance of EU law as a body of public health law lies in the notion that even if (EU) legislation does not explicitly or primarily have public health aims, it can still have an impact on public health, even on a very large scale. This chapter applies the framework of public health law provided by Burris and others. It submits that conducting EU public health law research can help identify under-researched areas of EU public health (law) and thereby bring concealed public health legislation to the surface: by distinguishing between interventional EU public health legislation – legislation that intentionally addresses public health concerns – and incidental EU public health legislation – legislation that is not intended to address public health but nevertheless has an impact on it – this chapter highlights the potential and the importance of studying EU law from a public health (law) perspective, especially given its potential, whether this is intentional or incidental, to affect the health of those living within the Union.

Key words: EU public health law; NCD prevention; tobacco control; alcohol control; unhealthy diets



Chapter 6

EU Public Health Law in the Context of NCDs: A Tough Nut to Crack

'A high level of human health protection shall be ensured in the definition and implementation of all Union policies and activities'[766]

1. INTRODUCTION

The EU is increasingly recognised as an important health actor.[767] Its legislation has an impact on the health of EU citizens in many different ways: European patients can enjoy access to cross-border treatments through the Patient Mobility Directive;[768] whilst health data is protected under the General Data Protection Regulation and safely shared via the European Health Data Space that will be applicable as of March 2027.[769] The EU ensures safe medicines within the internal market via the European Medicines Agency and, for example, procured Covid-19 vaccines on behalf of its Member States.[770]

The EU also plays an important role in the prevention of NCDs, chronic diseases that are the result of a combination of genetic, physiological, environmental and behavioural risk factors. NCDs are omniprevalent, causing over 91% of all deaths in the EU.[771] Three of the (behavioural) risk factors of NCDs include the consumption of tobacco, alcohol and unhealthy diets.[772] EU law is an important determinant of behavioural risk factors of NCDs: most obviously, the TAD and the Tobacco Products Directive (TPD) require Member States to regulate tobacco products and their advertising favouring public health.[773] The WHO recognizes legal interventions, particularly in the contexts of tobacco, alcohol, unhealthy diets and physical inactivity, such as (food) labelling, taxation and reformulation laws, as effective public health

766 TFEU (n 85) Art. 168(1).

767 See, for example, S Negri, 'The European Union as a Global Health Actor: Challenges and Opportunities' (2024) 52 Journal of Law, Medicine & Ethics 755; 'European Health Union: Protecting our health together' (*European Commission*) <https://commission.europa.eu/topics/public-health/european-health-union_en> accessed 30 November 2025.

768 Directive 2011/24/EU on the application of patients' rights in cross-border healthcare [2011] OJ L88/45.

769 Regulation 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) [2016] OJ L119/1, Art. 9; Regulation 2025/327 on the European Health Data Space and amending Directive 2011/24/EU and Regulation 2024/2847 [2025] OJ L2025/327.

770 Regulation No 726/2004 laying down Community procedures for the authorisation and supervision of medicinal products for human and veterinary use and establishing a European Medicines Agency [2004] OJ L136/1; *Commission decision of 18.6.2020 approving the agreement with the Member States on procuring Covid-19 vaccines on behalf of the Member States and related procedures* C(2020) 4192 final [2020].

771 'Deaths and disability-adjusted years within the EU in 2019 from non-communicable diseases' (*European Commission*, 1 March 2024) < https://knowledge4policy.ec.europa.eu/health-promotion-knowledge-gateway/eu-burden-non-communicable-diseases-key-risk-factors-1_en_en> accessed 30 November 2025.

772 Follow-up to the political declaration of the third high-level meeting of the General Assembly on the prevention and control of non-communicable diseases (n 16) para. 6.

773 TPD (n 82); Directive 2003/33/EC on the approximation of the laws, regulations and administrative provisions of the Member States relating to the advertising and sponsorship of tobacco products [2003] OJ L152/16 (hereinafter TAD); FIC Regulation (n 502).

interventions fostering public health.[774] In the EU context, some of these measures might be taken at the EU-level, while others fall within the Member States' competences.

This chapter illustrates that many areas of EU law interact with three major (behavioural) risk factors of NCDs and can, as such, impact health outcomes, particular NCD incidence, within the Union. Many measures (internationally) recognized as public health measures have been adopted at the EU level, although not all of them are necessarily recognized as public health interventions and have rather been adopted for the pursuit of other policy objectives.[775] This chapter therefore studies EU public health law; it particularly considers the extent to which legislation that can be viewed as public health legislation is intended to pursue a public health objective. Additionally, it also takes into consideration other areas of EU law, i.e. non-public health sector specific legislation, which extend beyond the traditional boundaries of public health policy, that are likely to have an incidental impact on NCD incidence within the EU.[776] Its scope remains limited to NCD prevention, with a particular focus on the regulation of tobacco (and related) products, alcoholic beverages and unhealthy food. Additionally, instead of systematically mapping all relevant legislation, the chapter rather aims to give an overview of the existence of the different types of EU public health law.[777]

The present chapter applies the framework of public health law developed by Burris and others to the EU context. This framework characterises three types of public health laws: infrastructural public health laws, which '[establish] the powers, duties and institutions of public health law';[778] interventional public health laws, which are 'law or legal practices that are intended to influence health outcomes or mediators directly';[779] and incidental public health laws, which are enacted for a purpose that is not public health, but which have an unintended impact on population health.[780] Given the division of competences and the lack of explicit legislative public health competences, soft EU public health 'legislation' is added as a category and, for the purposes of this chapter, broadly covers initiatives, strategies and

774 WHO Sugars Guideline (n 20); WHO Best Buys (n 20).

775 See, for example, FIC Regulation (n 502); Nutrition and Health Claims Regulation (n 503).

776 See, for example, B Wood, S Gallasch, N Shaxson and others, 'Time for a paradigm shift? Exploring competition regulation and its relationship with the rising global burden of industrial epidemics' [2025] Health Economic, Policy and Law 1, 1-2.

777 The aim of this chapter is limited to identifying the current interaction between EU law and public health. Although very relevant, a critical reflection on the interaction between market- and other values falls, as well as proposals for better incorporation of public health concerns in the EU's institutional structure remain outside of the scope of this chapter. For a good reflection, see for example, Delhomme (2025) (n 605) 1095.

778 AD Moutlon, SL Mercer, T Popovic and others, 'The Scientific Basis for Law as a Public Health Tool' (2009) 99 AJPH 17; Burris and others (2016) (n 110) 175.

779 Burris and others (2016) (n 110) 175.

780 Burris and others (2016) (n 110) 176.

actions of the EU that lack binding force.[781] In applying the framework to the context of EU law, the chapter awards particular importance to public health objectives in legal acts of the EU, to identify intent. These objectives have been identified by systematically searching for explicit references to 'health', 'human health', as well as mentions of public health strategies or diseases in the recitals, objectives, and provisions of EU (secondary) legislation itself. *Travaux préparatoires* and other preparatory documents have not been considered.

2. PUBLIC HEALTH LAW: APPROACHING LAW FROM A PUBLIC HEALTH PERSPECTIVE

Before identifying EU public health laws, it is important to first look into the scope of health, public health and public health law. The Constitution of the WHO defines health as 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity'.[782] Public health has been defined as: 'what we, as a society, do collectively to assure the conditions to be healthy'.[783] Laws have been recognised to be effective and sustainable tools to protect and promote the health of populations: as a key mechanism through which society is structured, they can establish the conditions for both good and poor health.[784] In the context of the EU, De Ruijter observes a duality in relation to EU public health policy. She notes that:

> 'on the one hand European health policy has the objective to manage collective health risks and prevent major disease scourges, e.g., public health. Law, as an instrument in this field of health policy, is usually public law, in that it regulates the relations between holders of public authority and citizens. On the other hand, EU health policy addresses objectives relating to the provision of medical care and individual health. Here the addressees are primarily individuals. Objectives include creating universal

781 Soft law refers to 'quasi-legal instruments that do not have any legally binding force', as opposed to hard law, which is binding. It includes non-binding agreements, and resolutions of international and regional organizations. Despite the fact that the instruments considered as soft EU public health legislation in this chapter do not always amount to agreements or resolutions, and also include strategies and actions of the EU, the term 'EU soft public health legislation' is nevertheless used to ensure coherence with the other categories considered. See, for example, Better Regulation and the Improvement of EU Regulatory Environment (n 146) 3; Meier and others (2025) (n 146) 11.

782 Constitution of the World Health Organization (adopted 22 July 1946, entered into force 7 April 1948) 14 UNTS 185 preamble. For an extensive discussion on the general concept of health in the context of the EU, please consult A de Ruijter, *A silent revolution: the expansion of EU power in the field of human health: A rights-based analysis of EU health law & policy* (PhD dissertation: *University of Amsterdam*, 2015) 47-54.

783 LO Gostin, 'Public Health Law in a New Century: Part I: Law as a Tool to Advance the Community's Health' (2000) 283 JAMA 2837, 2839.

784 Burris and others (2022) (n 75) 9; 'About the Public Health Law Program' (CDC, 15 May 2024) < https://www.cdc.gov/phlp/php/about/index.html> accessed 17 November 2025; Gostin and others (2019) (n 454) 1858.

> access to health care, which means regulating the medical field in general, allowing access to medicinal products, health care professionals and health insurance'.[785]

The scope of the present chapter is limited to the former, i.e. the management of collective health risks and the prevention of major disease scourges. It thereby stretches beyond laws regulating the health care system and encompasses laws that have an impact on broader societal and environmental factors that determine our health.

A commonly accepted definition of public health law provided by Gostin is:

> 'the study of the legal powers and duties of the state to ensure the conditions for people to be healthy (e.g., to identify, prevent, and ameliorate risks to health and safety in the population), and the limitations on the power of the state to constrain the autonomy, privacy, liberty, proprietary, or other legally protected interests of individuals for protection or promotion of community health'.[786]

Gostin then identifies five essential characteristics of public health law, which are:

> '(1) The government's responsibility to defend against health risks and promote the public's health; (2) the population-based perspective of public health, emphasizing prevention; (3) the relationship between government and the populace; (4) the mission, core functions, and services of the public health system; and (5) the power to coerce individuals, professionals, and businesses for the community's protection.'[787]

Furthermore, Parmet, Firschhut, Garde and Toebes clarify that 'public health law seeks to protect health at a broad population' and 'emphasizes prevention and health promotion, as opposed to the treatment of disease'.[788] In a similar vein, a 2017 WHO report states that:

> 'the concept of public health law […] is not restricted to laws that regulate the provision of health care services, but includes the legal powers that are necessary for the State to discharge its obligation to realize the right to health for all members of the population'.[789]

785 Footnotes omitted, De Ruijter (n 782) 59.

786 Gostin (2000) (n 783); Burris and others (2016) (n 110) 171.

787 Gostin (2000) (n 783) 2837.

788 WE Parmet, M Frischhut, A Garde and B Toebes, 'Introduction to Public Health Law' in D Orentlichter and TK Hervey (eds.), *The Oxford Handbook of Comparative Health Law* (OUP 2020) 68, abstract.

789 *Advancing the right to health: the vital role of law* (Geneva: World Health Organization 2017) 27; Parmet and others (2020) (n 775) 70.

The writings referred to above recognize that public health law includes laws that structurally shape society or the environment with the purpose of realizing the right to health or the promotion of community health – as such, they identify the scope of public health law. Burris and others add to this by defining public health law *research* as: 'the scientific study of the relation of law and legal practices to population health.'[790] Implicit to this definition is the notion that public health law is not only concerned with laws that aim to protect or promote public health. Research on public health law is also concerned with uncovering the *effects of law on population health outcomes* empirically.[791] This also adds an important component to the scope studied: it recognises that not only 'direct relationships between law and health',[792] but also 'relations mediated through the effects of law on health behaviours and other processes and structures that affect population health fall within the scope of public health law research.[793]

Burris and others provide a framework of public health law as introduced above to identify and study different types of public health laws. The framework identifies three types of public health laws, namely infrastructural public health laws, interventional public health laws and incidental public health laws.[794] Importantly, the framework recognizes the existence of laws that influence population health without having been adopted for such a purpose and may find themselves far outside the realm of or at a large distance from (public) health. It is especially the dichotomy between interventional and incidental health laws that provides for relevant insights into EU public health law and public health law research, potentially broaden the research area's scope.[795]

3. EU PUBLIC HEALTH LAW IN THE CONTEXT OF NCD PREVENTION

NCDs pose a major burden of disease in the EU. The Global Burden of Disease 2019 study reports that more than 91% of all deaths in the EU are the result of NCDs.[796] The study also finds that two thirds of premature deaths as a result of the main four NCDs (cardiovascular disease, diabetes, cancers and chronic respiratory diseases) are attributable to tobacco, alcohol

790 Burris and others (2016) (n 110) 171.

791 Burris and others (2016) (n 110) 172.

792 Burris and others (2016) (n 110) 171.

793 Burris and others (2016) (n 110) 171.

794 Burris and others (2016) (n 110) 175.

795 In a similar vein, see O Bartlett and A Naumann, 'Reinterpreting the health in all policies obligation in Article 168 TFEU: the first step towards making enforcement a realistic prospect' (2021) 16 Health Economics and Policy 8.

796 Deaths and disability-adjusted years within the EU in 2019 from non-communicable diseases (n 771).

use, unhealthy diets, physical inactivity, hypertension, obesity and environmental factors.[797] The EU has committed to improving public health in the Union on several occasions, for example through the Europe Beating Cancer Plan and other public commitments.[798] Beyond these intentions and efforts, the TFEU also states that, although NCD-related public health grounds do not offer the EU a legal basis for legislative actions,[799] a high level of human health protection must be ensured in the adoption and implementation of EU policies and actions.[800]

This section first considers the EU's competences as infrastructural EU public health law; subsequently it explores interventional EU public health legislation; thereafter it explores incidental EU public health legislation; finally, non-legislative acts are considered as soft EU public health law. The non-legislative acts are included in this chapter for their special place considering the division of competences the EU has to pursue public health objectives. Incidental public health legislation is relevant in the context of the EU for the same reason: it can help broaden the area of research of EU public health law researchers and thereby our perspective of EU public health law.

3.1 Infrastructural EU public health law: a lack of explicitly conferred competence areas

The principle of conferral dictates that 'the Union shall act only within the limits of the competences conferred upon it by the Member States in the Treaties to attain the objectives set out therein.'[801] For the protection and improvement of human health, the Union can only carry out actions to support, coordinate or supplement the actions of the Member States.[802] Correspondingly, Article 168 TFEU, on public health, explicitly excludes the harmonisation of laws.[803]

797 'EU burden from non-communicable diseases and key risk factors' (*European* Commission, 5 November 2025) < https://knowledge4policy.ec.europa.eu/health-promotion-knowledge-gateway/eu-burden-non-communicable-diseases-key-risk-factors_en> accessed 30 November 2025.

798 'A cancer plan for Europe: Europe's Beating Cancer Plan' (*European Commission*) < https://commission.europa.eu/topics/public-health/european-health-union/cancer-plan-europe_en> accessed 30 November 2025; *Communication from the Commission to the European Parliament and the Council Empty: Europe's Beating Cancer Plan* [2021] COM(2021) 44 final, SWD(2021) 13 final; '2023 State of the Union Address by President von der Leyen' (*European Commission*, 13 September 2023) <https://ec.europa.eu/commission/presscorner/detail/en/speech_23_4426> accessed 30 November 2025; and 2024; Ursula von der Leyen, 'Mission Letter: Commissioner-designate for Health and Animal Welfare' (*European Commission*, Brussels, 17 September 2024) < https://commission.europa.eu/document/download/b1817a1b-e62e-4949-bbb8-ebf29b54c8bd_en?filename=Mission+letter+-+VARHELYI.pdf> accessed 30 November 2025.

799 TFEU (n 85) Arts. 6(1) and 168(5).

800 TFEU (n 85) Art. 168(1).

801 TFEU (n 85) Art. 5(2).

802 TFEU (n 85) Art, 6(a).

803 TFEU (n 85) Art. 168(5).

In some cases, recourse can, however, be had to other legal bases, which is illustrated by the *Tobacco Advertising* cases.[804] In the first *Tobacco Advertising* case, the previous version of the TAD, which prohibited tobacco advertising on, among other objects and places, posters, parasols, ashtrays, and other objects, was challenged before the Court of Justice of the EU for its legal basis.[805] It was invalidly based on Article 100a TEC (now 114 TFEU), as it was found to be a public health measure and did not meet the threshold for recourse to the legal basis fostering the internal market.[806] In its reasoning, the Court was not concerned about the prominence of promoting public health in EU legislation.[807] In fact, it even specified that if the conditions for recourse to other legal bases are fulfilled, the EU may validly adopt harmonised legislation even where 'public health protection is a decisive factor in the choices to be made'.[808] It thereby explained that:

> 'the third paragraph of Article 129(1) [TEC, the predecessor of Article 168(1) TFEU] provides that health requirements are to form a constituent part of the Community's other policies and Article 100a(3) [TEC, the predecessor of Article 114(3) TFEU] expressly requires that, in the process of harmonisation, a high level of human health protection is to be ensured'.[809]

This is also reflected in EU public health law in practice. It can even be argued that the EU has been active in policy areas that impact public health since its foundation. The European Economic Community (EEC), established in 1957, was primarily concerned with the creation of a common market, as a result of which common policies were adopted in several areas, including the CAP.[810] The earliest policies were rather concerned with the creation of a common market in post-war Europe, and less so with public health promotion.[811] For example, the first tobacco law was a subsidy for tobacco farmers under the CAP,[812] whilst in the context of food the CAP was mainly concerned with food security.[813] Over time, some legislation in these policy areas has come to promote public health: the EU has become an

804 Case C-376/98 *Germany v Parliament and the Council* [2000] (hereinafter First Tobacco Advertising Case); Case C-380/03 *Germany v Parliament and the Council* [2006].

805 First Tobacco Advertising Case (n 804).

806 First Tobacco Advertising Case (n 804).

807 S Weatherill, 'The competence to harmonise and its limits' in P Koutrakos and J Snell (eds) *Research Handbook on the Law of the EU's Internal Market* (Edward Elgar Publishing, 2017) 82, 94.

808 First Tobacco Advertising Case (n 804) para. 88; Weatherill (2017) (n 807) 94.

809 First Tobacco Advertising Case (n 804) para. 88.

810 Hervey and McHale (2015) (n 499) 31.

811 Hervey and McHale (2015) (n 499) 405.

812 Hervey and McHale (2015) (n 499) 390.

813 Hervey and McHale (2015) (n 499) 405.

important global actor in tobacco control and in the densely regulated area of EU food law, public health protection is recognised amongst several other policy objectives.[814]

Hervey and McHale identify the transversal nature of EU health law: although the EU has had competences in the area of public health since the 1990s, its legislative competences remain limited in this area.[815] Public health is therefore rather promoted through other areas of EU law, particularly the internal market.[816] In the context of EU food law (but relevant beyond that context) Schebesta and Purnhagen similarly write about a 'web' of competences.[817] As food does not belong to a competence area that is explicitly conferred to the Union, its regulation depends on other competence norms. It is therefore subject to the competence norm governing the internal market as a good in general; the competence norms governing the agricultural market as an agricultural product; the competence norms related to health protection, consumer protection and environmental protection as a product whose production or consumption can affect these factors; and the rules of competition law and customs policy.[818] In the context of NCDs, it must be noted that Article 168(5) TFEU explicitly excludes the harmonisation of laws and regulations of the Member States when it comes to regulating tobacco and abuse of alcohol for the protection of public health.[819]

The above indicates the lack of an explicitly conferred competence area. Both public health and food law are rather a matter of regulation through a related competence area: EU health legislation in the context of NCDs, just like such legislation in other legal orders, is not only made within the policy area of health. In this context, it was as early as 2006 that Finland launched the concept of 'health in all policies', an internationally recognized and prominent strategy in public health,[820] in the EU context as part of its EU Presidency.[821] Recognizing that major horizontal policies can have a major impact on health, it recommended to Member States and the EU that:

814 Hervey and McHale (2015) (n 499) 390 and 403. For a comprehensive overview on the successes and challenges in the area of tobacco control, please consult *Two decades of the implementation of the WHO Framework Convention on Tobacco Control in the European Union: progress, challenges and the road ahead*' (Copenhagen: WHO Regional Office for Europe, 2025).

815 Hervey and McHale (2015) (n 499) 389.

816 Hervey and McHale (2015) (n 499) 389.

817 Schebesta and Purnhagen (n 600) 35.

818 Schebesta and Purnhagen (2024) (n 600) 34-35.

819 TFEU (n 85) Art. 168(5).

820 The concept was already formalised in the WHO's Alma Ata Declaration on Primary Health Care in 1978 and the Ottawa Charter for Health Promotion, Barlett and Naumann (2021) (n 795) 8. Also see, for example, WHO Promoting Health in All Policies webpage (n 88).

821 T Ståhl, M Wismar, E Ollila and others. (eds.), *Health in All Policies: Prospects and Potentials* (Ministry of Socail Affairs and Health, 2006); E Ollila, T Ståhl, M Wismar and others, 'Health in All Policies in the European Union and its member states' (2006) <https://ec.europa.eu/health/ph_projects/2005/action1/docs/2005_1_18_frep_a4_en.pdf> accessed 30 November 2025; L Green, K Ashton, MA Bellis and others., "Health in all Policies' – A Key Driver for Health and Well-Being in a Post-COVID-19 Pandemic World' (2021) 18 IJERPH 1, 7.

> '[t]he argumentation base for health, health determinants and health systems should be strengthened, including how they relate to such core policies of the EU as those concerning internal markets, competition and trade'.[822]

Despite the limited competences in the area of public health, and in accordance with Article 168(1) TFEU,[823] the Commission must conduct an impact assessment, including the impact on health as part of the social impact assessment, for new initiatives under the Better Regulation toolbox.[824] In assessing *whether* a proposed policy requires a health impact assessment, the toolbox indicates that major initiatives with cross-sectoral impact should be assessed for their health impact by default, as well as initiatives that have possible effects on the health determinants (including tobacco, alcohol and nutrition), the social determinants of health and the commercial determinants of health.[825] In the selection of *significant* impacts, the Commission must also take into consideration 'indirect health impacts', including the question of whether the policy option concerned affects the socio-economic and environmental health determinants, including nutrition.[826] This thus indicates that health impact assessments are not limitedly carried out for interventional EU public health legislation proposals. Although this indicates a commitment to a health in all policies-approach in one step of the policy-making process, this approach does not guarantee an optimal outcome for public health.[827]

3.2 EU interventional public health legislation: a patchwork

The EU does not have the competences to adopt interventional public health laws in their 'purest' form – it cannot adopt legislation exclusively for public health reasons and for the exclusive pursuit of public health objectives – as particularly the first *Tobacco Advertising* case indicates: EU legislation that is only adopted in response to public health issues, and does not meet the threshold for recourse to a (legislative) legal basis, are inappropriate.[828] This does not mean, however, that interventional public health laws do not exist at all at the EU-level. In fact, and as explained in the previous section, the EU is obliged to ensure a high level of public health protection in the definition and implementation of all EU policies and activities.[829] This means that when the EU acts upon a legislative competence, for example

822 Ollila and others (2006) (n 821) 7.

823 TFEU (n 85) Art. 168(1).

824 For a comprehensive overview on the consideration of health in the Better Regulation toolbox, including the approaches and methods to health impact assessments that are not discussed in the present chapter, please consult *Better regulation toolbox* (European Commission, 2023) 282-291.

825 Better regulation toolbox (n 824)284.

826 Better regulation toolbox (n 824)285.

827 O Bartlett, 'Can EU Law Be Used to Challenge Better Regulation Practices That Do Not Lead to Better Health? (2024) 31 E.J.H.L. 389, 390. On a discussion on health in all policies in the EU context, please consult Barlett and Naumann (2021) (n 795).

828 First Tobacco Advertising Case (n 804) para. 86 and 111.

829 TFEU (n 85) Art. 168(1), Arts. 9, 114(3) and 169(1).

Article 114 TFEU fostering the internal market,[830] it must ensure a high level of public health protection in the design of the legislation flowing from the legislative process, as well as the implementation of EU policies and activities – which is also at the basis of a health in all policies-approach.[831] This approach, i.e., adopting public health laws through a legal basis pursuing a policy objective other than public health, allows for direct influence on public health, but may, however, affect the clarity and quality of the legislation as public health legislation.[832]

Many examples of interventional public health laws exist at the EU-level, and their commitment to public health, observed in intention or effect, can be various. Prominent are the TPD and the TAD, which respectively regulate tobacco products and tobacco advertising to facilitate the smooth functioning of the internal market, while recognizing and protecting the public health interests concerned.[833] These Directives explicitly mention public health objectives,[834] including the recognition that the TPD contributes to meeting the EU's obligations under the FCTC,[835] and referring to the position of tobacco advertising in the (then-ongoing) negotiations of the FCTC in the TAD.[836] This has also had an impact: within five years of the TPD's implementation, smoking prevalence in individuals aged above 15 had decreased with three percentage points, which surpasses the Directive's target goal of two percent.[837]

In the context of food regulation, the FIC Regulation, which finds its basis in Article 114 TFEU,[838] harmonises food labelling rules in the EU.[839] The Regulation aims to ensure a high level of consumer protection and sets the rules related to food information.[840] In concrete terms, it regulates the required information on food labelling, including a list of

830 TFEU (n 85) Art. 114.

831 Barlett and Naumann (2021) (n 795) 9-10.

832 Note how Delhomme sets out the limitations of this approach and proposes an amendment of Article 168 TFEU, V Delhomme, 'Emancipating Health from the Internal Market: For a Stronger EU (Legislative) Competence in Public Health (2020) 11 EJRR 747.

833 TPD (n 82); TAD (n 773).

834 See, for example, TPD (n 82) Recitals 8, 13, 18, 21, 36, 43, 59, Art. 1; TAD (n 773) Recitals 3 and 9.

835 TPD (n 82) Recitals 7, 15, 29, Art. 1.

836 TAD (n 773) Recital 8.

837 Note that causal inference cannot be attributed only to the implementation of the TPD, but that the reduction is nevertheless regarded significant, and that a part of the reduction may also be explained by product displacement, CI Vardavas, 'European Tobacco Products Directive (TPD): current impact and future steps' (2022) 31 Tob Control 198, 200; *Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the application of Directive 2014/40/EU concerning the manufacture, presentation and sale of tobacco and related products* (European Commission, 20 May 2021) COM(2021) 249 final.

838 TFEU (n 85) Art. 114.

839 FIC Regulation (n 502).

840 FIC Regulation (n 502) Art. 1(1) and 1(2).

ingredients,[841] allergy information,[842] information on the durability of the product,[843] and a nutrition declaration,[844] thereby enabling consumers to make informed food choices.

The Regulation recognises that 'the free movement of safe and wholesome food is an essential aspect of the internal market and contributes significantly to the health and well-being of citizens' and that ensuring that consumers are informed about the food they consume is part of ensuring a high level of health protection.[845] Amongst its general objectives it states that:

> 'The provision of food information shall pursue *a high level of protection of consumers' health* […] by providing a basis for final consumers to make informed choices and to make safe use of food, with particular regard to *health*, economic, environmental, social and ethical considerations'.[846]

Although the FIC Regulation recognizes a public health objective, it remains limited in effect. The current FIC Regulation is criticised for its limited requirements on the provision of nutritional information: it sets limited requirements for nutritional declarations and has also been interpreted to avoid Member States from imposing more effective front-of-pack labels, as these go against its free movement objective.[847] So, even interventional public health legislation, categorised as such for its public health objectives, can have suboptimal public health impacts.

Another example of legislation that recognizes an explicit public health objective is the AVMSD.[848] It coordinates domestic legislation on the provision of audiovisual media services.[849] Its recitals refer to consumer and public health protection,[850] acknowledging that children's exposure to the audiovisual advertising of foods and beverages 'high in salt, sugars,

841 FIC Regulation (n 502) Art. 9(1)(a).

842 FIC Regulation (n 502) Art. 9(1)(c).

843 FIC Regulation (n 502) Art. 9(1)(f).

844 FIC Regulation (n 502) Art. 9(1)(l).

845 FIC Regulation (n 502) Recitals 2 and 3.

846 Emphasis added, FIC Regulation (n 502) Art. 3(1).

847 Note that '[f]ront-of-pack labelling as part of comprehensive nutrition labelling policies for facilitating consumers' understanding and choice of food for healthy diets' is considered a quick best buy by the WHO and can have an immediate effect on UN-linked targets; Galea and others (2025) (n 80) 4. They are considered more effective here, given the fact that they provide more accessible and easily understood information and, as such, can help consumers identify healthy food choices. See, for example, A Shrestha, K Cullerton, KM White and others, 'Impact of front-of-pack nutrition labelling in consumer understanding and use across socio-economic status: A systematic review' (2023) 187 Appetite 1; S Pettigrew, MI Jongenelis, S Hercberg and C Julia, 'Front-of-pack nutrition labels: an equitable public health intervention' (2023) 77 European Journal of Clinical Nutrition 135; Delhomme (2020) (n 819) 753. Note that Gokani recently submitted some front-of-pack labels would be allowed under the FIC Regulation, Gokani (2026) (n 515). Also note that Gokani previously flagged the Health and Nutrition Claims Regulation as the obstacle, Gokani (2022) (n 516) 161-170.

848 AVMSD (n 505).

849 AVMSD (n 505).

850 AVMSD (n 505) Recitals 28 and 31.

fat, saturated fats or trans-fatty acids or that otherwise do not fit […] national or international nutritional guidelines' must be reduced.[851] Paradoxically, in ensuring this protection, the AVMSD encourages the use of co-regulation and fosters self-regulation of the advertising of these products;[852] the shortcomings of which have been emphasised.[853] In the context of audiovisual commercial communications of alcoholic beverages, the AVMSD also encourages the use of co-regulation and fosters self-regulation,[854] but sets some additional criteria with which such communications must comply.[855]

From a public health perspective, the AVMSD has been met with criticism.[856] Garde notes that the State of Establishment principle, i.e., the principle that the law governing cross-border audiovisual communications is the (domestic) law of the Member State in which the media service provider is established, effectively circumvents the freedom of Member States to adopt stricter standards than the standard set by the AVMSD.[857] In practice this means that Member States that have set a higher standard of protection cannot prevent commercial communications from other Member States with a lower level of protection from being broadcasted. Garde (rhetorically) questions whether it is not 'paradoxical that Member States may be significantly better off in the absence of existing EU rules purporting to protect public health?'.[858] This case thus exemplifies that even if the EU pursues a public health objective, the level ensured may still be subpar from a public health perspective and may obstruct Member States in adopting (e.g., mandatory front-of-pack labelling under domestic law in the context of the FIC Regulation) or enforcing stronger domestic public health legislation (e.g., the State of Establishment principle as a limitation to higher domestic standards of protection).

These are just a few examples of how EU law, despite lacking a legislative competence to act in response to public health concerns in the Union, still contains interventional public health legislation, albeit that they are adopted through competence areas other than public health. The examples of the FIC Regulation and the AVMSD demonstrate that even if the EU pursues a public health objective through another legal basis, the legislation arising from this may still be considered below standard from a public health perspective.

851 AVMSD (n 505) Recital 28.

852 AVMSD (n 505) Recital 28, Art. 9(4).

853 On the general shortcomings of co-regulation and, especially self-regulation, see WHO Food marketing guideline (n 74) xii; Special Rapporteur Report (Anand Grover, 2014) (n 280) paras. 23 – 25. For further insights, also see A Garde, 'Harmful Commercial Marketing and Children's Rights: For a Better Use of EU Powers' (2020) 11 EJRR 841, 845.

854 AVMSD (n 505) Art. 9(3).

855 Among other things, such commercial communications 'shall not be aimed specifically at minors' or 'encourage immoderate consumption of alcohol', AVMSD (n 505) Art. 22

856 See, for example, Garde (2020) (n 853); Barlett and Garde (2013) (n 506).

857 Garde (2020) (n 853) 845.

858 Garde (2020) (n 853) 845.

3.3 EU incidental public health legislation: exploring (somewhat) neglected areas of EU public health law?

In a Union that was originally concerned with the creation of a common market, it should not come as a surprise that many of its laws do not primarily deal with public health. Incidental public health laws, including those in the EU, are various and can be closer or further away from the policy area of public health. In this chapter, two types of EU incidental public health legislation are identified, namely 1) incidental EU public health legislation that could generally be recognized as relevant in NCD prevention strategies, but does not pursue a(n explicit) public health objective in the EU context; as well as 2) incidental EU public health legislation that is part of legislation in a policy area not widely recognized as a public health policy area.

For the purposes of this chapter, 'a policy recognized as relevant in NCD prevention strategies' is one that is (internationally) recognized as a(n effective) public health intervention in the domain of public health. This includes policies that are part of, among other documents (but not limited to), the WHO's best buys,[859] the FCTC,[860] and frameworks developed to improve food environments, such as the NOURISHING policy framework of the World Cancer Research Fund International,[861] and the INFORMAS study.[862] Examples of such policies include the use of fiscal and price measures on tobacco products,[863] and alcoholic beverages;[864] enacting and enforcing comprehensive bans on tobacco advertising, promotion and sponsorship;[865] adopting reformulation policies for healthier food products;[866] and front-of-pack labelling for food products.[867] This section respectively presents examples of both the first and second types of incidental health laws.

3.3.1 Incidental EU public health legislation: Type 1

The first type of EU incidental public health legislation identified in this chapter falls within the categories of public health interventions identified in one of the frameworks mentioned above but does not explicitly pursue such an objective under EU law. An example of such legislation includes the Nutrition and Health Claims Regulation. It is adopted on the basis of Article 95 TEC (the predecessor of Article 114 TFEU) and regulates nutrition and health claims on food products in commercial communications.[868] For a public health audience,

859 WHO Best Buys (n 20).

860 Note that legislation in the context of tobacco control is not discussed in this section, FCTC (n 82).

861 Hawkes and others (2013) (n 129).

862 Swinburn and others (2013) (n 63).

863 FCTC (n 82); WHO Best Buys (n 20) 8.

864 WHO Best Buys (n 20) 9.

865 FCTC (n 82); WHO Best Buys (n 20) 8.

866 WHO Best Buys (n 20) 10.

867 WHO Best Buys (n 20) 10.

868 Nutrition and Health Claims Regulation (n 503) Art. 1(2).

this would typically qualify as a public health intervention: the NOURISHING framework, for example, recommends 'nutrition label standards and regulations on the use of claims and implied claims on food' as a 'policy [action] to effectively promote healthier eating.'[869]
The Regulation, however, appears to be more concerned with consumer protection. It applies to commercial communications,[870] and:

> 'harmonises the provisions laid down by law, regulation or administrative action in Member States which relate to nutrition and health claims in order to ensure the effective functioning of the internal market whilst providing *a high level of consumer protection*'.[871]

For the pursuit of this objective, the Regulation particularly aims to 'give the consumer the necessary information to make choices in full knowledge of the facts' and aims to address the potential undesirable effects of consumers being encouraged to choose products promoted with claims that could affect their total intake of individual nutrients in a way that is against scientific advices.[872] Although the Regulation does not contain explicit references to the Treaty provision dealing with consumer protection, it should be noted that in ensuring a high level of consumer protection, EU legislation shall contribute to protecting multiple interests, including the health of consumers.[873] This means that, even though there is no explicit reference to health objectives, it could be implicitly read into the Regulation.

Legislation in the context of free trade- and tariff agreements with third States can also be considered part of NCD prevention strategies. For example, a recommended measure under NOURISHING's category of '[using] economic tools to address food affordability and purchase incentives' is 'increasing import tariffs on specified "unhealthy" food.[874] There are some examples in which tariffs for imported sugar, the consumption of which is associated with multiple NCDs,[875] from specified countries are lowered. For example, Regulation 2016/1076 applying the arrangements for products originating in certain states which are part of the African, Caribbean and Pacific (ACP) Group of States provided for in agreements establishing, or leading to the establishment of, economic partnership agreements was adopted on

869 'Nutrition label standards and regulations on the use of claims and implied claims on food' (*World Cancer Research Fund International*) < https://policydatabase.wcrf.org/level_one?page=nourishing-level-one#step2=0> accessed 27 January 2026; I Vlad, K Oldridge-Turner, KI Klepp and others, 'The development of the NOURISHING and MOVING benchmarking tools to monitor and evaluate national governments' nutrition and physical activity policies to address obesity in the European region' (2023) 24 Obes Rev. 1, 2; Hawkes and others (2013) (n 129)16.

870 This includes foods intended for supply to restaurants, hospitals and other mass caterers, Nutrition and Health Claims Regulation (n 503) Art. 1(2).

871 Emphasis added, Nutrition and Health Claims Regulation (n 503) Recital 4.

872 Nutrition and Health Claims Regulation (n 503) Recitals 8 and 9.

873 TEC (n 604) Art. 153.

874 'Use economic tools to address food affordability and purchase incentives' (*World Cancer Research Fund International*) <https://policydatabase.wcrf.org/level_one?page=nourishing-level-one#step2=2> accessed 28 January 2026.

875 WHO Sugars Guideline (n 20); WHO Best Buys (n 20) 7.

the basis of Article 207(2) TFEU (on the common commercial policy) and sets a 'zero-duty tariff rate' under its transitional arrangements for products falling under tariff heading 1701 (cane or beet sugar and chemically pure sucrose) originating from the specified countries.[876] The Regulation furthermore provides for the imposition of safeguard measures in 'situations where during two consecutive months the average Union market price of white sugar falls below 80% of the average Union market price for white sugar during the previous market year'.[877]

Free trade agreements, agreements that reduce or eliminate barriers to trade among the Parties, can also be considered incidental public health laws. Interestingly, the negotiation of the EU-Mercosur Agreement and its potentially harmful effect on health has been highlighted in this context.[878] After an initial impact assessment on the agreement in 2011 appeared to not have mentioned any health impacts,[879] the sustainability impact assessment (SIA) in support of the association agreement negotiations between the EU and Mercosur published in 2019 revealed that potential negative health impacts did exist.[880] The SIA includes an assessment of the human rights impact,[881] covering four rights of concern including the right to health and the right to an adequate standard of living.[882] It indicates, among other things, that Colombia would benefit from the reduction in trade costs on alcoholic beverages and tobacco exported to the EU,[883] and that in the context of trade in beverages:

> 'consumers [in both the EU and the four Mercosur countries] will also benefit from access to a wider array of both alcoholic and non-alcoholic beverages. The modelling exercise undertaken for this study shows that *private consumption in the beverages*

876 Regulation 2016/1076 applying the arrangements for products originating in certain states which are part of the African, Caribbean and Pacific (ACP) Group of States provided for in agreements establishing, or leading to the establishment of, economic partnership agreements [2016] OJ L185/1 Art. 8.

877 Regulation 2016/1076 (n 876) Art. 11(3)(c).

878 Barlett and Naumann (2021) (n 795) 17-18. For examples of criticism from civil society organizations, please consult 'EU-Mercosur: Trade First, Standards Later?' (*Foodwatch*, 5 December 2025) < https://www.foodwatch.org/en/eu-mercosur-trade-first-standards-later> accessed 28 January 2026; G Thurley, 'The EU-Mercosur agreement means serious potential impacts for health' (*European Public Health Alliance*, 30 July 2019) < https://epha.org/the-eu-mercosur-agreement-means-serious-potential-impacts-for-health/> accessed 28 January 2026.

879 Barlett and Naumann (2021) (n 795) 18; A Burrell, E Ferrari, A González Mellado and others, *Potential EU-Mercosur Free Trade Agreement: Impact Assessment (Volume 1: Main results)* (Joint Research Centre, European Commission, 2011) EUR 25011 EN.

880 Barlett and Naumann (2021) (n 795) 18; M Mendez-Parra, E Garnizova, D Baeza Breinbauer and others, *Sustainability Impact Assessment in Support of the Association Agreement Negotiations between the European Union and Mercosur* (Luxembourg: European Union, 2020).

881 Mendez-parra and others (2020) (n 880) 106-174.

882 Including in the context of increased NCDs, although this analysis is limited to the Mercosur context, Mendez-parra and others (2020) (n 880) 161-162.

883 Mendez-parra and others (2020) (n 880) 28

> *sector will increase for all countries*, with especially strong effects in the EU bloc and Paraguay'.[884]

In this regard, the SIA recommends that both parties should consider adopting measures to promote responsible consumption of particularly alcoholic and sugary beverages.[885] In its general recommendations for the right to health, it similarly indicates that:

> '[a]ll parties should take steps in *reducing risks of increasing obesity*, possibly with measures such as information campaigns, educational programmes, front of package (FOP) nutrition labelling'.[886]

The above examples thus indicate that free trade with third States can also foster the availability and (economic) accessibility of products that are part of NCD risk factors and, as such, may have negative impacts on public health.

3.3.2 Incidental EU public health legislation: Type 2

The second type of EU incidental public health legislation includes legislation that is not recognised as a public health intervention but does have an impact on public health: such laws have been adopted for reasons other than public health and are often far outside the realm of public health. An example of such a policy domain in the context of the present chapter is the potential impact of competition law on the consumption of the products driving NCDs – as discussed in this chapter, namely tobacco, alcohol and (unhealthy) food products. The freedom of movement provisions could similarly fall within this group but are not discussed in the context of this chapter.[887]

Competition law is an important area of EU law and is particularly concerned with the harm firms can inflict on competition if they possess a degree of market power, which can ultimately be to the detriment of consumers – often in the shape of artificially high prices.[888] For example, this area of law regulates how companies can build up scale and market power (merger control),[889] and what they can do with the acquired market power (abuse of market

884 Emphasis added, Mendez-parra and others (2020) (n 880) 231.

885 Mendez-parra and others (2020) (n 880) 233, 341.

886 Emphasis added, Mendez-parra and others (2020) (n 880) 173, 339.

887 On the freedom of movement provisions, see the EU law part of Chapter 4 section 3.1 of this dissertation. For an extensive analysis, please consult Delhomme (2023) (n 488). On the constitutional tensions and beverages arising from using internal market provisions (i.e., not in the context of the freedom of movement provisions, but a discussion that could be extended to these provisions) for the regulation of tobacco, food and alcoholic beverages, please consult Delhomme (2025) (n 605).

888 R Whish and D Bailey, *Competition Law* (OUP, 2018, 9th edn) 2.

889 Regulation No 139/2004 on the control of concentrations between undertakings [2004] OJ L 24/1 (hereinafter Merger Regulation).

power and dominance).[890] Competition law is thus concerned with regulating the levels of industry concentration and corporate power, including the concentration and power of industries whose products are a root cause of NCD incidence. In that way, its implementation is likely to have an impact on health outcomes.[891] In the context of the markets of tobacco and related products, alcohol products and unhealthy food products, the objective of competition law (i.e., to protect consumers from the harm firms can cause if they have a high degree of market power) could be the opposite of the objective of health promotion (i.e., to reduce the consumption of products harmful to consumers' health).

Wood and others recently explored the relationship between competition regulation and 'the rising global burden of industrial epidemics' and submit that this area of law can be an important tool to prevent and reduce excessive corporate power of harmful consumer product industries.[892] In their contribution, the authors discuss, amongst other things, the increasing concentration of the global beer industry, in which Anheuser-Busch InBev (AB InBev) became a globally leading beer company as a result of mergers and acquisitions.[893] In approving the merger between AB InBev and SAB Miller in 2016 under the Merger Regulation, [894] the Competition Commissioner at the time, Margrethe Verstager, explained the Commission's approval by stating that:

> '[This] decision will ensure that competition is not weakened in [EU] markets and that EU consumers are not worse off. Europeans buy around 125 billion euros of beer every year, *so even a relatively small price increase could cause considerable harm to consumers*'.[895]

This statement exemplifies how EU law, in this case the implementation of competition law, can incidentally have an impact on public health. At the time of the decision, increasing prices of alcohol products through the adoption of fiscal measures had already been recognized as a recommended public health intervention.[896] It appears, however, that this was not explicitly taken into consideration by the Commission. The quote above rather indicates that

890 TFEU (n 85) Art. 102.

891 Wood and others (2025) (n 776) 4-7. Note how Bartlett and Naumann propose a distinction between health in all policies in policy implementation and policymaking, O Bartlett and A Naumann, 'Reinterpreting the health in all policies obligation in Article 168 TFEU: the first step towards making enforcement a realistic prospect' (2021) 16 Health Economics and Policy 8, 16.

892 Wood and others (2025) (n 776) 1-3.

893 Wood and others (2025) (n 776) 8-9.

894 Merger Regulation (n 889).

895 'Daily News 25/05/2016' (*European Commission*, 25 May 2016) < https://ec.europa.eu/commission/presscorner/detail/en/mex_16_1909> accessed 30 November 2025; Wood and others (2025) (n 776) 8.

896 See, for example, *Global action plan for the prevention and control of noncommunicable diseases 2013-2020* (Geneva: World Health Organization, 2013) 67.

a price increase of products sold by AB InBev, namely beer, would be considered a harm to consumers.[897]

In the context of unhealthy diets, a similar in-depth investigation under the Merger Regulation was initiated by the Commission in June 2025, after the proposed acquisition of Kellanova by Mars.[898] While Mars is a global supplier of a large range of popular food brands, including chocolate confectionery and sugar confectionary, Kellanova supplies well-known brands of stacked chips and ready-to-eat cereals.[899] The Commission was particularly concerned that Mars' bargaining power would be increased as both brands currently hold a strong market position, and that both companies carry brands that are considered 'must-have for end consumers'.[900] This could then result in Mars being able to leverage higher prices.[901] Commissioner Ribera, the Executive Vice-President for Clean, Just and Competitive Transition of the Commission, expressed her concerns that:

> 'By acquiring Kellanova, Mars will add several very popular brands of potato chips and cereals to its already broad and strong product portfolio. As inflation-hit food prices remain high across Europe, *it is essential to ensure that this acquisition does not further drive up the cost of shopping baskets*. Our in-depth investigation will assess the transaction's impact on the price of the companies' products for consumers in the EEA.'[902]

In December 2025, this merger was unconditionally approved: the Commission did not find that it raises competition concerns.[903] Although Mars would be able to link different product categories in negotiations with retailers with its broadened product portfolio, the evidence collected by the Commission did not support a finding that the acquisition would increase Mars' bargaining power towards retailers.[904]

Similar to the AB Inbev decision, the Mars decision concerns a concentration of two companies that, for the most part, are known to sell products that are high in particularly

897 Note that Article 169 TFEU includes health as a factor that can contribute to consumer protection, TFEU (n 85) Art. 169(1). Commission webpage 25/05/2016 (n 883); Wood and others (2025) (n 776) 8.

898 Merger Regulation (n 889); Commission opens in-depth investigation into the proposed acquisition of Kellanova by Mars' (*European Commission*, 25 June 2025) < https://ec.europa.eu/commission/presscorner/api/files/document/print/en/ip_25_1604/IP_25_1604_EN.pdf> accessed 25 January 2026.

899 Commission investigation announcement Kellanova (2025) (n 898).

900 Commission investigation announcement Kellanova (2025) (n 898).

901 Commission investigation announcement Kellanova (2025) (n 898).

902 Emphasis added, 'Commission investigation announcement Kellanova (2025) (n 898).

903 'Commission approves Mars' acquisition of Kellanova' (*European Commission*, 8 December 2025) < https://ec.europa.eu/commission/presscorner/api/files/document/print/da/ip_25_2938/IP_25_2938_EN.pdf> accessed 25 January 2026.

904 Commission approval Kellanova (n 903).

sugars (chocolate and sugar confectionaries, and ready-to-eat cereals), as well as sodium and saturated fats (stacked chips). This decision is in contrast with contemporary findings that interventions increasing the price of unhealthy products, including taxes, can contribute to a decrease in its consumption and are, as such, recommended.[905] It similarly comes against the backdrop of a multiplicity of health taxes implemented in EU Member States,[906] as well as a public commitment of the Commission to support Member States in adopting health taxes.[907] Commissioner Ribera's concern that the merger may drive up the cost of the shopping basket – particularly taking into consideration the type of products Mars and Kellanova add to a shopping basket – is therefore questionable in light of widely recommended public health policies, that recognize potential in price increases on the consumption of unhealthy food products.[908]

These two cases exemplify the need to consider and study competition law as an area of EU incidental public health law that seemingly has interests that clash with public health. In fact, it is questionable whether or how these decisions take the obligation of the Union to ensure a high level of human health protection – in the case of competition decisions particularly in the implementation of policies under Article 168(1) TFEU – into consideration.[909] These decisions do not only exemplify the need, as similarly expressed by Wood and others, for public health (law) advocates and public health law researchers to engage with discussions in the area of competition law, but they should also serve as an invitation for competition lawyers to consider the external (health) effects of competition law (decisions), particularly its impact on health.[910]

905 Note that the WHO guideline on fiscal policies to promote healthy diets makes a strong recommendation on a sugar sweetened beverage tax and a conditional recommendation on the taxation of foods that do not contribute to a healthy diet, *Fiscal policies to promote healthy diets: WHO guideline* (Geneva: World Health Organization, 2024) x-xiv. Note that the recent report on health taxes states that a *significant* increase in retail prices would be required to achieve measurable consumption changes, De Vet and others (2025) (n 518) 3-4.

906 According to the recent Safe Hearts Plan, thirteen Member States have implemented some form of taxation on unhealthy food products *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on an EU cardiovascular health plan: the Safe hearts Plan* (European Commission, 16 December 2025) COM(2025 1024 final. According to the report by DG TAXUD, eleven EU Member States and the Spanish region of Catalonia have implemented some form of taxation on food and beverages high in saturated fats, sodium and sugars, for which the majority follow a public health rationale, De Vet and others (2025) (n 518) 22-27. For another overview, please consult 'Health Promotion and Disease Prevention Knowledge Gateway - Implemented policies to address sugars intake' (*European Commission*, 8 April 2021) < https://knowledge4policy.ec.europa.eu/health-promotion-knowledge-gateway/sugars-sweeteners-10_en> accessed 26 January 2026.

907 Safe hearts plan (n 906) 12-13.

908 Note that the recommendations are stronger in light of sugar sweetened beverages than other foods high in saturated fats, sodium and sugars.

909 Note how Bartlett and Naumann propose a distinction between health in all policies in policy implementation and policymaking, Barlett and Naumann (2021) (n 795) 8-10, 16.

910 Wood and others (2025) (n 776) 1.

3.4 EU public health soft law: recommendations, strategies and other initiatives

In accordance with the division of competences – particularly the EU's competences to support, coordinate or supplement the actions of Member States in the area of human health protection and improvement – the EU addresses public health concerns through non-binding initiatives.[911] In fact, a chapter on EU public health law could easily undermine the EU's commitment to NCD prevention by overlooking the Union's contribution to the public's health through initiatives, activities and strategies that lack legal force.[912] Beyond the EU context, soft law also takes up a special position in the broader context of (global) health law, a field in which 'non-traditional sources are the 'rule' rather than the 'exception".[913]

Recommendations are an example of such non-binding initiatives.[914] In response to the need for better protection against second-hand smoke and the recent increased exposure to aerosols from novel tobacco and related products, the Council has adopted a recommendation on smoke- and aerosol-free environments, on the basis of Article 168(6) TFEU.[915] Although the Recommendation has limited legal value at the EU-level, it has political value and recommends a broad set of measures to the Member States that can be implemented at the domestic level, as well as collaboration among each other and with the Commission.[916] Furthermore, the Commission recommendation on developing and strengthening integrated child protection systems in the best interests of the child incorporates NCD prevention in its general scope.[917] It recommends domestic measures '[protecting] children against the undue influence of commercial interests, such as […] alcohol, tobacco and unhealthy food consumption' and commends States to guarantee children's access to healthy nutrition.[918]

911 De Ruijter (n 782) 59.

912 This is not to say that all initiatives and commitments successfully achieve their intended effect.

913 G Bosi and B Toebes, 'Global Health Law' in E Heffes, M Ventura and H Johnston (eds) *Non-traditional sources of International Law: What Lies Beyond Article 38(1)(a)-(d) of the ICJ* Statute (Asser Press, 2026) 8; JS Richter, 'The role of soft law in the prevention and control of non-communicable diseases' (*Völkerrechtsblog*, 18 May 2020) < https://voelkerrechtsblog.org/de/the-role-of-soft-law-in-the-prevention-and-control-of-non-communicable-diseases/> accessed 18 March 2026.

914 Recommendations and opinions are the two forms of non-binding EU acts, TFEU (n 85) Art. 288.

915 As, in the context of smoke- and aerosol-free environments, national rules are unlikely to constitute restrictions to the free movement of goods (or services), see, Delhomme (2023) (n 488) 381; TFEU (n 85) Art. 168(6); Council Recommendation of 3 December on smoke- and aerosol-free environments replacing Council Recommendation 2009/C 296/02 (12 December 2024) C/2024/7235.

916 Council Recommendation on smoke- and aerosol-free environments (n 903) paras. 1 – 14.

917 Commission Recommendation of 23 April 2024 on developing and strengthening integrated child protection systems in the best interests of the child (23 April 2024) C(2024) 2680 final.

918 Commission Recommendation on developing and strengthening integrated child protection systems in the best interests of the child (n 917) para. 13(b) and 15.

The EU also supports Member States by supporting and funding scientific research,[919] as well as promoting information sharing among States. Under the EU4Health programme 280 million euros has supported NCD prevention activities, through so-called Joint Actions (JAs), stakeholder-led projects and contribution agreements with international organizations.[920] The JAs illustrate how the Commission facilitates information sharing practices. In the context of NCDs, the JA PreventNCD supports strategies and policies with the objective of reducing the burden of NCDs, and it aims to 'minimize fragmentation and duplication of efforts and to engage national authorities at various levels to enhance the impact of actions taken'.[921] It supports authorities by evaluating the measures taken, helping them to prioritize the most effective options.[922] JACARDI (JA cardiovascular diseases and diabetes) is another EU JA, worth over 66 million euros of which 80% is funded by the EU, and brings together 81 partners from 21 European countries.[923] This JA carries out 143 tailor-made pilot projects in both public and clinical settings.[924] The outcomes of these pilot projects can serve as case studies that, in case of positive evaluation, can ultimately be scaled up facilitating its use across countries.[925]

Beyond this, the European Commission has also (politically) committed to public health and NCD prevention through various non-binding initiatives. In 2007, it adopted a White Paper presenting the Strategy on nutrition, overweight and obesity-related health issues.[926] This White Paper proposed a number of measures that could be adopted at the local, regional, national and European levels to address health concerns caused by poor nutrition, overweight and obesity.[927] Europe's Beating Cancer Plan furthermore is a 'political commitment to turn the tide against cancer'.[928] It has a total budget of 4 billion euros,[929] and, under its pillar for the prevention of cancer, it commits to, among other things, a tobacco-free Europe, the reduction of harmful alcohol consumption and health promotion through access to healthy diets and physical activity.[930] A recent study finds that the Plan has benefited cancer control both

919 This includes the research conducted for this chapter, which was co-funded by the Joint Research Centre under the Collaborative Doctoral Partnership programme, CDP webpage (n 5).

920 *Flash Report: Meeting of the Public Health Expert Group subgroup on NCD prevention, 10 July 2025* (European Commission).

921 'About JA PreventNCD' (*JA PreventNCD*) < https://www.preventncd.eu/about/> accessed 28 January 2026.

922 JA PreventNCD (n 921).

923 'Who we are' (*JACARDI*) <https://jacardi.eu/who-we-are/> accessed 28 January 2026.

924 JACARDI (n 923).

925 JACARDI (n 923).

926 *White Paper on A Strategy for Europe on Nutrition, Overweight and Obesity related health issues* (Brussels: 30 May 2007) COM(2007) 279 final.

927 White Paper on A Strategy for Europe on Nutrition, Overweight and Obesity related health issues (n 914).

928 EC webpage EBCP (n 798).

929 Note that part of the budget also comes from the EU4HEALTH programme mentioned above, Europe's Beating Cancer Plan (n 798).

930 Europe's Beating Cancer Plan (n 798).

at the EU- and domestic levels, but that significant delays remain in, among other pillars, the prevention of the disease. Under this pillar, substantial progress was made on setting regulatory and policy foundations for cancer prevention, while some of the actions in the context of a tobacco-free generation, the reduction of harmful alcohol consumption and improving health promotion through access to healthy diets and physical activity are found to be delayed.[931]

4. CONCLUDING REMARKS

Although EU law is not primarily concerned with and stretches far beyond the realm of public health, its (potential) impact on public health throughout the Union is substantial – whether that be through interventional EU public health legislation or incidental EU public health legislation, and whether the effects of the latter are positive or negative. Applying the framework of public health law provided by Burris and others in conducting EU public health law research can help identify under researched areas of EU public health (law) research and thereby bring concealed public health legislation to the surface, the impact of which can be empirically evaluated. This can subsequently foster a stronger health in all policies approach in the context of EU law.

The division of competences between the EU and its Member States makes that particular attention should be awarded to incidental EU public health laws, as well as non-binding initiatives. In terms of the incidental public health laws, there appear to be mechanisms which ensure the consideration of incidental public health impacts of EU legislation under the Better Regulation toolbox. Nevertheless, this chapter signals that health appears to not be explicitly considered in competition decisions, while subpar outcomes for public health also remain in secondary legislation, whether that legislation is incidental or interventional public health law in nature. Although the cause of such outcomes was not studied, this may be a result from the political process or the adoption of limited methodologies.

This chapter indicates the widespread relevance of EU law for the public's health in the Union, ranging from tobacco legislation to general consumer protection legislation, (external) trade law and competition law. This chapter invites EU generalists and public health scholars to join the efforts of public health lawyers: collaboration is needed for this tough nut to crack.

931 For example, the '[review] of the Tobacco Products Directive'; the '[r]eview of EU legislation relating to the taxation of alcohol and cross-border purchase of alcohol products'; and the '[r]eview of the promotion policy for agricultural products' were among the sub-actions that were delayed, M Beke, R Orhan Pees, A Chowaniec and others, *Europe's Beating Cancer Plan: Implementation findings Study* (European Parliament, 20 October 2025) 46-51.



Chapter 7

Wrapping it up: Dental Caries, Food Environments and Law

This dissertation explores the connection between law, child oral health and food environments, and establishes the foundation for further cross-fertilisation between the different relevant disciplines and fields. The main findings of the dissertation are of a reflective nature, and this concluding chapter accordingly offers a helicopter view of the findings. The multifaceted role of law in protecting and improving public health, including child oral health, is at the heart of this dissertation and, as such, also at the core of the present conclusion: law acts in both a regulatory (measure-setting laws) and normative (norm-setting laws) shape, and exists at different *levels* and in different *areas*, including areas that are not related to public health generally or oral health specifically.

This chapter begins with a section that provides the answers to the sub-questions. The answers per sub-question are composed of two components: the first part summarises the concrete (substantive) findings of the relevant chapters and serves as reading assistance for readers who may not read all chapters of the present (article-based) dissertation, while the second part steers away from concrete substance and poses a reflective answer to the sub-question. The sub-questions and main findings are summarised in Table 10, located at the end of Section 1. The subsequent section presents an answer to the main research question. This chapter concludes by highlighting the academic and societal relevance of this dissertation and wraps it up.

1. SUB-QUESTIONS

1.1 Sub-question 1: What are the behavioural risk factors of poor child oral health, particularly the incidence of dental caries?

The first sub-question forms the foundation of the subsequent chapters of this dissertation. It is descriptive in nature and does not involve legal research; rather, it is at the basis of subsequent legal research. Accordingly, to answer this question, literature research was carried out. The research is primarily based on publications on oral health by the WHO,[932] which are more accessible for researchers with professional training in other, i.e. non-medical, disciplines. Academic literature was consulted in a complementary fashion. The factors identified in these documents were included if they: 1) constituted (risk) factors for dental caries; 2) were relevant for the contexts in which children generally live (i.e. risk factors connected to products containing alcohol were excluded); 3) could be addressed by legal instruments; and 4) take place at a population level (i.e. the laws that could address them are primary prevention interventions and suit the population-level). The outcomes, i.e. the selected risk factors,

932 Particularly: WHO GOHAP (n 8); WHO Global Oral Health Status Report (n 8); Ending Childhood Dental Caries: WHO Implementation Manual (n 11).

have been verified and confirmed through interdisciplinary collaboration, as well as the peer review processes, and publication in an academic journal in the field of dentistry.[933]

1.1.1 Summarising Chapter 2 – A Right to Health-Based Approach to Dental Caries: Toward a Comprehensive Control Strategy

As described in Chapter 3,[934] WHO describes the process of dental caries as: "[d]estruction of teeth [which] results when microbial film (plaque) formed on the tooth surface converts the sugars contained in foods and drinks into acids, which dissolve tooth enamel and dentine over time".[935] In other words, frequent sugars consumption modifies the microbial balance of the plaque into one that is cariogenic. This cariogenic plaque is readily able to metabolise sugars, forming acids that dissolve the two dental hard tissues – enamel (the hard outer surface of tooth) and dentine (the layer between enamel and the dental pulp) – leading to carious lesion development. To prevent caries lesion development, the creation and persistence of these acids must be interrupted.

Reducing the risk of caries lesion development involves a combination of factors. Given the primary role of sugars and their pathological influence on the dental plaque microbiota in dental caries development, it is important that the amount and frequency of (free) sugars ingested are limited. Dental plaque, which builds up on tooth surfaces, needs to be regularly removed by brushing with a (fluoridated) toothpaste and interdental cleaning, thereby removing the cariogenic plaque (if present) and limiting the time it is present on the tooth surface. Exposure to fluoride, either through toothpastes, professional application, or low levels via community water fluoridation, strengthens the resistance of enamel to demineralisation (dissolution or cavity formation). Oral health practitioners play an important role in preventing and managing dental caries by identifying a patient's risk of developing dental caries, arresting existing carious lesions, that is, halting the progression of active carious lesions or treating more severe carious lesions with restorations or extractions.

1.1.2 Reflecting on concrete findings: answering sub-question 1

Based on the above, four concrete risk factors that can be addressed by, and can likely be moderated through, law can be identified, namely 1) (free) sugars ingestion; 2) oral hygiene; 3) fluoride exposure; and 4) (access to) oral health care. Whilst (frequent) sugars ingestion is a risk factor that drives the process of dental caries, the other three factors contribute to the moderation of the impact of the process set in motion by sugars ingestion, i.e. whilst sugars ingestion must be limited for the protection and improvement of child oral health, practicing effective oral hygiene, ensuring appropriate fluoride exposure and accessing the dental health care system improve resilience against caries development and progression and must as such

933 Mollet and others (2024) (n 116); Mollet (2025) (n 31).

934 The following two paragraphs have been replicated from Chapter 3, section 4. Footnotes have been omitted.

935 Ending Childhood Dental Caries: WHO Implementation Manual (n 11) v.

be fostered. For its central role in caries lesion development, as well as the growing attention for (un)healthy diets and NCDs, sugars consumption (and factors that are likely to have an impact on that consumption) has been selected to be at the centre of the remaining chapters of the dissertation.

1.2 Sub-question 2: How does international human rights law relate to the prevention of dental caries in children, and how does it inform regulatory (domestic) laws and policies?

As indicated in the introductory chapter to this dissertation, this sub-question is limited to the scopes of the CRC and ICESCR.[936] It essentially consists of two parts: 'how does international human rights law relate to the prevention of dental caries in children?'; and 'how does it inform regulatory (domestic) laws and policies?'.

1.2.1 Summarising Chapters 2 (A Right to Health-Based Approach to Dental Caries: Toward a Comprehensive Control Strategy) and 3 (Conceptualizing the Child's Right to Oral Health: A Rights-Based Approach to Dental Caries)

The starting point of the first part of this sub-question, and of the chapters written for answering it, is the WHO's GOHAP, which recognises that "[a]chieving the highest attainable standard of oral health is a fundamental right of every human being".[937] Chapter 2 explains what the right to oral health entails and notes that an explicit provision recognizing the right to oral health is not provided within the text of the treaties that fall within the scope of the present sub-question (i.e. the ICESCR and CRC), nor has such a right been stated explicitly under any other treaty under international law. This does not mean that individuals do not have a right to oral health; as oral health is an integral component of general health, the right to oral health falls within the scope of the right to the highest attainable standard of physical health under the ICESCR (Article 12) and CRC (Article 24). The rights and (State) obligations arising from these provisions therefore also cover the context of oral health.

In accordance with the interdependence and indivisibility of human rights, the experience of dental caries, particularly in childhood, is also likely to have an impact on the fulfilment of multiple rights enshrined in the ICESCR and CRC. Most prominently, the experience of caries by itself directly impacts the right to health. As behavioural factors play a particular role in caries experience, and these factors are shared with other NCDs and often persist in later life, dental caries experience in childhood may also have an impact on overall health in later life, thereby affecting the right to health on the long term. In a more indirect fashion, the presence of the disease can further impact children's health by the effects it can have on eating when it is left untreated. Owing to pain, it can lead to malnutrition, underweight and stunting. Dental caries experience can furthermore have an impact on the personal

936 For an overview schematically presenting the answer to this sub-question, please consult Table 6 in Chapter 3.

937 WHO GOHAP (n 8) para. 15.

and academic development of children. As oral health is a critical matter of social life and functioning, poor oral health, including caries experience, can thus limit this. It thereby affects the rights related to the development of children, including Articles 6(2) CRC and 27(1) CRC. Severe dental caries experience in children is also associated with missed school days and reduced academic development, thereby entering the sphere of children's right to education (Article 12(1)(e) CRC). Taking into consideration that dental caries is more prevalent amongst persons of low socioeconomic status and persists into later life, addressing, or rather preventing, dental caries is likely to have a positive impact on reducing health inequalities in a population. Dental caries in children is thus not only a matter of the right to health, but also impacts the enjoyment of other rights.

The second part of this question essentially investigates what the connected (State) obligations are to address dental caries in children, particularly in the context of the four behavioural factors identified in the answer to sub-question 1. As indicated in the introductory chapter of this dissertation, the second part of the question does not aim to provide an answer to *how* international human rights law influence laws and policies in States Parties to these treaties in practice, but rather *what* can substantively be interpreted from the relevant provisions and can as such be adopted by States to ensure the right to oral health and related rights. These obligations primarily flow from the right to health (as it requires States to adopt measures aiming to prevent diseases in the population). Authoritative interpretations and other documents have been consulted in the identification of State obligations. These documents particularly provide guidance as to the kinds of concrete measures States could adopt. It must be noted that some of these obligations are core obligations, and therefore have a more urgent nature, while others fall within the progressive realization of the right to health, and therefore have a less urgent nature. In this dissertation, a rights-based approach to addressing risk factors for dental caries has been categorized along the lines of the four risk factors identified under sub-question 1.

In the context of addressing **(free) sugars consumption** as the primary risk factor of dental caries,[938] the obligations under the right to health are various. The obligation to respect the right to health can be interpreted to mean that States should not act in a manner that is likely to result in preventable, diet-related morbidity and mortality, by, for example, incentivizing the consumption of unhealthy food products. The obligation to protect requires States to regulate the activities of third parties, including industries, whose practices may be detrimental to health. The CESCR classifies the failure to protect consumers from practices detrimental to health by food manufacturers as a violation of this obligation. Following the obligation to fulfil, individuals must be assisted with, among other things, the provision of nutritious and safe food and information. Several documents, including General Comments and Reports of Special Rapporteurs have suggested the adoption of upstream (legal) measures, including

938 Part of the present paragraph is reproduced from Chapter 3, section 4.1. Footnotes have been omitted.

sugar (-sweetened) beverage taxes, advertising and promotion measures or bans, mandatory (front-of-pack) labelling measures, fiscal measures and procurement policies to incentivize the agricultural production and consumption of, among other products, vegetables and fruits, establishing health-related requirements for investments of transnational companies, limiting the availability of products in schools, and involving schools in health strategies.

In the context of promoting **oral hygiene practices**, a particular role is awarded to the provision of information. In light of Articles 5 and 18 CRC, States must strike a balance - they must respect, and thereby not interfere with, the relationship between caregivers and children, whilst providing those caregivers with the means, such as funds and information, to ensure that children grow up in a manner that assures the furtherance of their rights. This also corresponds with the right to health (particularly Article 24(2)(e) CRC), which requires States to adopt measures'[t]o ensure that [parents and children] are *informed, have access to education and are supported* in the use of basic knowledge of (…) hygiene',[939] and is in accordance with the rights to information and education under the CRC (Articles 13 and 29(1)(a)). The information provided to children must be physically accessible, understandable and appropriate to children's age and educational level. It should not only be communicated via school curriculums and health services, but also in contexts for children that do not attend school. Parents should be informed via multiple channels, including media and public information leaflets.

In the context of **fluoride exposure**, States have two major ways of structurally providing fluoride to the population. It can be provided on an individual basis by brushing with a fluoride toothpaste or receiving professionally applied fluoride treatments, or at the community-level through fluoridated community water supplies, dietary salt, or milk. Fluoride in its topical version has been added to the 22nd WHO EML and the 8th WHO Model List of Essential Medicines for Children in 2021. This means that in this version it now belongs to the core content of the right to health. The other method of provision, particularly through community water fluoridation, has been recognized as an effective primary prevention practice, especially in reducing oral health inequalities. Independent on whether fluoride is provided to the population, fluoride provision must comply with the AAAQ requirements - the obligation of States stretches to guaranteeing the rational and appropriate dispensation, sale and usage of essential medicines so as to prevent adverse health effects.

In the context of **oral health care and dental care attendance**, the obligations of States are various and the role of oral health care in caries management is multifaceted. The obligation to fulfil the right to health mandates states to ensure the provision of health care, including that it meets the AAAQ-requirements and that health care workers are trained appropriately. Furthermore, when it comes to children, the health care system should not only encompass

939 Emphasis added. CRC (n 52) Art. 24(e).

curative services, but also 'prevention, promotion, treatment, rehabilitation and palliative care services'.[940] Finally, in terms of financing the (oral) health care system, appropriate allocation of resources is required to prevent overt and covert forms of discrimination. Particularly, investments in expensive curative services should not be disproportionately favoured. Universal access to primary health care services, into which oral health care should be integrated, for children should be of primary concern and the inability to pay should not result in denial of the child's right of access to health care. The payment for these services should be affordable for all.

In an overarching fashion, Article 3 CRC on the best interest of the child mandates States to ensure the best interest of the child throughout its processes and to consider the potential impact of all decisions and actions on children's rights and interests. Finally, reflecting on the interconnection between the four risk factors, it is important to emphasise that the prevalence of caries is high and widespread, whilst it is largely preventable. Considering all four risk factors discussed, interventions to address particularly sugars consumption appear not to be resource-depleting for States. In fact, some of such interventions are recommended by the WHO as cost-effective interventions to address and prevent NCDs in general and even dental caries specifically. Such measures are also recognised as part of general NCD prevention strategies, thereby they are also likely to contribute to the prevention of other NCDs. It must therefore be emphasised that in light of the attainability of the right to health, such measures should be prioritised.

1.2.2 Reflecting on concrete findings: answering sub-question 2

The above thus illustrates how dental caries in children is a matter of human rights law: its experience limits children's enjoyment of the right to health and related rights. The widespread prevalence of the disease and the fact that it is largely preventable through behavioural modifications highlights the relevance of a rights-based approach to risk factor – or mediating factor – regulation. Considering the findings under sub-question 2, the obligations in the context of sugars consumption as a risk factor of dental caries were adopted as a central theme for the remainder of the dissertation. As decisions concerning food consumption, including sugars, are impacted by food environments, the subsequent part entirely focuses on food environments.

1.3 Sub-question 3: How can law address or determine (healthy) food environments, particularly for their impact on dietary choices including sugars consumption as a driver of dental caries?

Sub-question 3 studies the connection between law and food environments. This sub-question does not intend to set out how law impacts societal structures theoretically (i.e. it does not adopt a political science or sociological approach), but rather aims to provide a

940 CRC GC No. 15 (n 44) para. 25.

comprehensive, but not exhaustive, overview of how law fits within the theoretical concept of food environments and how it is substantively often concerned with matters that belong to food environments.

1.3.1 Summarising Chapter 4 – Multi-Level Laws as a determinant of (Un)Healthy Food Environments in Europe: Food for Thought

Chapter 4 distinguishes between measure-setting and norm-setting laws.[941] As explained in the chapter, measure-setting laws are those that are closer to the actual behaviour of individuals and consumption choices, such as advertising regulations and labelling requirements – those laws that establish the different systems or components that together constitute food environments, whilst norm-setting laws provide a normative system for designing, adopting, scrutinising, evaluating and revising laws that concretely regulate food environments, and are not always directly impacting individuals or consumers but are normative to the overall system.

In the context of measure-setting laws, it is recognised from the outset that different actors that are part of the food industry shape food environments by their commercial practices. These practices can, however, be regulated by policies, laws and regulations, which are stipulated by governments and regulators at different levels. As such, governments and regulators shape food environments by determining 'the rules within which the private sector must operate'.[942] In this exercise, governments or regulators are essentially in a position to balance public interests, including public health, with commercial interests. Various laws at all levels considered, i.e. international, EU, domestic and local laws, that interact with food environments in multiple manners are identified in Chapter 4. It is noted that the concrete shaping of (a particular pillar of) food environments does not necessarily exist at one level, but that there is a complex interplay between the laws at different levels; laws adopted at a higher level may restrict lower-level governments' right (and freedom) to regulate. It is important to emphasise the co-regulatory interplay in certain areas, such as labelling regulation, particularly between the EU and Member States level – where a complex 'patchwork' of legislation defines the shapes of food environments to which individuals are exposed.[943] This highlights the need for expertise in different levels of law, as well as different areas of law in shaping (healthier) food environments: collaboration is not only needed between legal research and public health research, but also within the discipline of law.

941 The following paragraph has been reproduced from Chapter 4 section 3. Footnotes have been omitted.

942 Sacks and others (2008) (n 69) 77. Note that the latter source considers 'laws and regulations' as policy instruments (on page 77).

943 Also consult section 3.1 of Chapter 6 of this dissertation.

Without further exploring or theorising the mechanisms of *how* and the extent to which norm-setting laws inform food environments, the chapters clarify how food environments substantively fall within the scope of such laws, particularly how certain laws argue in favour of (healthy) food environments and recognise the role, or even responsibilities, of State authorities or governments therein.[944] As such, these norm-setting laws can play an important counterbalance in the balancing of interests. Similar to the measure-setting laws, it is noted that norm-setting laws exist at virtually all levels. An interplay, or cross-fertilization of norms, between the different levels has not explicitly been discussed in Chapter 4, as such an interplay appears to play a less prominent role.[945]

1.3.2 Summarising Chapter 5 – A Human Rights-Based Approach to Food Advertising in the Netherlands: Turning Swiss Cheese into a firm Gouda?

Chapter 5 not only presents a case study of the regulation of one component of a single pillar of the food environment (i.e. food advertising) in a single legal order (i.e. the Dutch one), but it also exhibits, or embodies, a way in which the measure-setting and norm-setting laws caninteract in the context of the food environment. It critically analyses the Dutch regulatory scheme for food advertising against a framework based on the rights to health and food (Articles 11 and 12 ICESCR; and Article 24 CRC). The Dutch regulatory system consists of a self-regulatory code that regulates advertising in general and contains a special code for food products, the rules of which have been tightened in February 2026. The chapter particularly zooms in on three accounts: 1) which parties hold regulatory power? 2) which groups' protection is considered by the regulation? and 3) which media are regulated? It submits that, despite the newly introduced reinforced rules, the Dutch regulatory scheme is underinclusive on all three accounts.

In terms of the first dimension, namely *which parties hold regulatory power*, the self-regulatory system inherently holds a conflict of interest in both its norm-setting and enforcement components. Consequently, the protection of public health is not a primary interest or objective of the regulatory regime – which is underinclusive to the human rights framework established. Accordingly, the recommendation on this dimension focuses on the need to adopt statutory legislation regulating food advertising, to ensure that interests are adequately balanced, and steer clear from any conflict of interests. When it comes to the second dimension, namely *which groups' protection is considered*, adults' and children above the age of 16 years rights to health and food are not adequately ensured in the current regulatory scheme – the human rights framework requires especially adequate protection for all children, whilst

944 Note that this central position of State obligations is inherent to human rights law, and not only particularly in the present context.

945 Cross-fertilisation between different human rights law regimes does, however, happen. An example of a study mapping this in a different context than food environments includes K Mayall, C Zampas and R Grimà Algora, 'Mapping the Cross-Border Influence of Regional and International Reproductive Rights Cases' (2024) 16 J Hum Rights Pract. 852.

adults should also be protected to some extent. The recommendations therefore repeat the need to primarily ensure the adequate protection of children, while it recommends further protection beyond consumer protection principles for adults, taking into consideration their rights to health and food. Finally, the Dutch regulatory scheme is also found to be underinclusive with respect to the human rights framework established in terms of *types of media covered*. Although online advertising is subject to the same rules as offline advertising, its enforcement proves to be challenging in practice; thereby leaving gaps in the online world and as such being underinclusive to the standards set by the human rights framework. The recommendations accordingly highlight the need for clear and coherent guidelines to determine what kinds of commercial communications are permitted on which platforms to which audience.

1.3.3 Reflecting on concrete findings: answering sub-question 3

An important contribution in the answer to sub-question 3 for the overall dissertation is the introduction of the distinction between measure-setting and norm-setting laws. Law can address or determine food environments by regulating products or (industry) behaviour by setting measures (measure-setting laws), but some laws also address or determine food environments by setting a normative standard to the overall system. These two types of laws exist at multiple levels, i.e. from the international law-setting to locally adopted ordinances. Particularly measure-setting laws can have an impact beyond their own level, which creates a complex 'patchwork of legislation' in some areas, and sometimes only incidentally shape food environments. This highlights the need to study laws that practically have an impact on the shape of food environments, but might not necessarily be concerned with food environments, health and/or nutrition specifically.

1.4 Sub-question 4: How does EU primary and secondary law impact the incidence of NCDs, including the incidence of dental caries (or the prevention thereof)?

Similarly, to sub-question 3, the aim of this sub-question is not to set out how EU law impacts society theoretically, or measure or evaluate empirically how health outcomes are impacted by EU law. Rather, to answer this sub-question, it adopts the (heuristic) framework of public health law, which allows for the identification of public health laws that intentionally address health, and those that only incidentally do so. Accordingly, the application of this framework allows for the broad identification of public health law, particularly in a legal system that is not primarily concerned with public health.

1.4.1 Summarising Chapter 6 – EU Public Health Law in the Context of NCDs: A Tough Nut to Crack

The chapter seeks to apply the framework of public health law developed by Burris and others to the EU context. This framework characterises three types of public health laws: infrastructural public health laws, which '[establish] the powers, duties and institutions of public health law'; interventional public health laws, which are 'law or legal practices that are intended to influence health outcomes or mediators directly'; and incidental public health laws, which are enacted for a purpose that is not public health, but which have an unintended impact on population health.[946] Some adjustments are made to the framework, as it differentiates between two types of incidental EU public health laws and it adds soft law as a fourth component, given the limitation on the legislative competences of the EU.

The competences of the EU, categorised as infrastructural EU public health law in Chapter 6, are central in the explanation as to why incidental public health law and soft law should particularly be studied. The Union can only carry out actions to support, coordinate or supplement the actions of the Member States in the context of human health protection and the harmonization of laws is explicitly excluded from its legislative possibilities. Recourse can, however, be had to other legal bases under which the EU has legislative competences and in defining (and implementing) legislation under such a legal basis, 'a high level of human health protection shall be ensured'.[947] Interventional EU public health laws are various and the examples of the FIC Regulation and the AVMSD indicate that even if EU legislation recognises a public health objective, the content of the legislation can still be subpar from a public health perspective. Chapter 6 identifies two types of EU incidental public health laws, namely those that fall within a category of a recognized public health intervention but do not pursue such an objective; and those that are not recognised as public health intervention but do have an impact on public health. The examples in the area of competition law demonstrate that certain (implementing) decisions clash with the EU's obligation to 'ensure a high level of human health protection […] in the definition and implementation of *all* Union policies and activities'.[948] Finally, the chapter highlights the existence of EU soft public health law: it indicates that through political commitment, funding and facilitating collaboration between Member States, the EU is still very active in the context of the three NCD risk factors at the focus of attention in Chapter 6, namely tobacco, alcohol and unhealthy diets, without making use of legislative competences.

946 Burris and others (2016) (n 110) 175-6.

947 TFEU (n 85) Art. 168(1).

948 Emphasis added, TFEU (n 85) Art. 168(1).

1.4.2 Reflecting on concrete findings: answering sub-question 4

EU secondary law impacts the incidence of NCDs through the regulation of certain products, particularly tobacco products, alcoholic beverages and unhealthy food products, marketed in the Union. This regulation has both intentional and incidental impacts on public health. It is particularly in the (fostered) consideration of public health objectives or impacts in incidental health laws where progress can be made, and where EU law can have a more positive impact on NCD incidence within the Union. Accordingly, it may be beneficial for EU lawyers in those non-health sector-specific areas of law to be aware of public health concerns and for non-lawyers in the field of public health to study exactly the impacts of these laws. Nevertheless, it is not only in the context of incidental laws that progress can be made. Chapter 6 also indicates that even for interventional health laws, the final text of legislation can also be suboptimal for the pursuit of public health objectives. These findings, focusing on secondary law, can be explained by the institutional structure of the EU, where public health is not a legislative competence area and public health legislation, whether that be interventional or incidental, is adopted through other competence areas.

Table 10. Overview of sub-questions and answers

Sub-question	Designated Part of the dissertation	Reflective answer
1. *What are the behavioural (risk) factors of poor child oral health, particularly the experience of dental caries?*	Part I	The behavioural risk factors of poor child oral health, particularly the incidence of dental caries, that can be addressed by laws are considered to be 1) (free) sugars ingestion; 2) oral hygiene; 3) fluoride exposure; and 4) (access) to oral health care. It must be noted that strictly speaking only the first is a *causative* factor and the latter three are moderating factors.
2. *How does international human rights law relate to the prevention of dental caries in children, and how does it inform regulatory (domestic) laws and policies?*	Part I	Dental caries experience in children impacts the enjoyment and fulfilment of various rights enshrined in the ICESCR and CRC, including the right to health, of which oral health is an integral component, and rights related to development and education, making it a matter of human rights law. The widespread prevalence of the disease and the fact that it is largely preventable through healthy and low caries risk behaviours highlight the relevance of a rights-based approach to risk factor – or moderating factor – regulation. The regulation of the four (risk) factors can be guided by the State obligations in the context of the right to health, supplemented with other relevant rights. These obligations concern both the regulation or provision of certain substances (sugars and fluoride) and the health care system, as well as ensuring that children and parents are provided with adequate information.
3. *How does law address or determine (healthy) food environments, particularly for their impact on dietary choices including sugars consumption as a driver of dental caries?*	Part II	Both measure-setting and norm-setting laws address or determine food environments. Both can exist at multiple levels of law. Particularly measure-setting laws can have an impact beyond their own level, by, for example restricting lower levels' freedom to regulate or by setting measures that must be implemented at lower levels, thereby creating a complex patchwork of (sometimes interdependent) legislation that determines the shape of food environments. Besides this multi-level aspect, law is also multi-faceted in the sense that various areas of law are relevant, including those that are not concerned with food environments or public health.
4. *How can EU primary and secondary law impact the incidence of NCDs, including the incidence of dental caries (or the prevention thereof)?*	Part III	EU secondary law is concerned with the regulation of tobacco products, alcoholic beverages, and (unhealthy) food products. This legislation may be interventional, in the sense that it recognizes a public health objective, or incidental, in the sense that it is exclusively concerned with (an)other policy objective(s). This can be explained by the division of competences between the Member States and the EU, where the EU's legislative competences in the domain of public health are limited and legislation relevant for NCDs is adopted under other competence bases, such as the fostering of the internal market.

2. MAIN RESEARCH QUESTION: HOW CAN LAW CONTRIBUTE TO THE PROTECTION AND IMPROVEMENT OF THE MAINTENANCE OF CHILD ORAL HEALTH, PARTICULARLY THE PREVENTION OF DENTAL CARIES?

The sub-questions answered throughout this dissertation are built on the line of reasoning that laws inform food environments; which in turn inform dietary choices; which inform health outcomes, including dental caries incidence. The presumption is thus that, indirectly, through the adoption of laws that shape *healthier* food environments, consumers are likely to adopt healthier diets, which ultimately has an impact on health outcomes, including the prevention of dental caries.[949]

This dissertation identifies two types of law that are relevant in the present context: both measure-setting and norm-setting laws exist besides each other and contribute to the protection and improvement of public health, including the maintenance of child oral health and particularly the prevention of dental caries, in their own ways. The answer to the main research question as presented below is therefore also structured along the lines of this distinction: the section commences with considerations on measure-setting laws and concludes with considerations on norm-setting laws.

2.1 How can measure-setting laws contribute to the protection and improvement of the maintenance of child oral health, particularly the prevention of dental caries?

In the analyses on measure-setting laws, the breadth of relevant *levels* and *areas* of law highlights the multifaceted role law can play in the protection and improvement of the maintenance of child oral health. Chapter 4, for example, indicated that food environments are not only established at one level, but that different levels of law impact authorities at subsequent levels in their freedom to regulate relevant matters, as well as create a patchwork of regulation that determines the final shape of food environments.

Besides the interplay between levels, the chapters of this dissertation highlight that public health is at stake in many areas of law, including those that are not necessarily concerned with public health. At all relevant levels, it is not only legislation that is specific to food (environments), NCDs and/or public health, but also more generally legislation in other areas of law, including laws fostering the trade of goods at different levels, that are likely to have an impact on public health. In studying or deploying law for the protection and maintenance of child oral health, but also the prevention of NCDs generally, it is thus important to extend

949 Note that all steps made are also informed by other factors, and that the connections should not be considered in a vacuum.

the focus to laws that are not specific to public health. At the same time, legislation that intentionally addresses public health should not be forgotten. Chapter 6 illustrates how intentional public health laws at the EU-level remain suboptimal, despite their public health objectives.

Accordingly, measure-setting laws contribute to the protection and improvement of the maintenance of child oral health by regulating (the marketing of) products that drive the development of caries, as well as the settings in which decisions concerning the consumption of these products are made. These laws and regulations are not always, or often not, concerned with public health, let alone child oral health, and may primarily protect other policy interests, including the promotion and facilitation of (free) trade. In those cases, it is likely that law does not optimally contribute to the protection and improvement of child oral health and rather fosters the opposite. Law could contribute to the protection and improvement of child oral health by taking up shapes that are likely to foster this, by, for example, discouraging the consumption of (free) sugars. It must be noted, however, that this remains a political decision that is taken in contexts where balances must be struck between various, sometimes opposing, interests. Accordingly, to promote law for the protection and maintenance of child oral health, an important role appears to remain with (public health law) scholars and civil society organisations.

2.2 How can norm-setting laws contribute to the protection and improvement of the maintenance of child oral health, particularly the prevention of dental caries?

Norm-setting laws are normative to the overall system. As has been identified in Chapter 4, it is the measure-setting laws that define the space in which industries can act and market the products that are unfavourable to health, including child oral health. As legislators or policymakers are concerned with balancing all the different interests in society, and commercial interests can be overrepresented by effective lobbying practices, norm-setting laws can serve as a tool to counterbalance such commercial interests and guide governments in policymaking. Chapter 5 embodies this practice and demonstrates how a critical analysis of existing legislation (or a lack thereof) in light of defined criteria originating from norm-setting laws can help identify gaps in existing legislation (or, in this case, self-regulatory rules) and how norm-setting laws can provide guidance in the development of legislation promoting under-represented interests. Whilst the measure-setting laws are thus important in directly regulating behaviours – including unfavourable behaviours fostering poor oral health and the behavioural risk factors of NCDs – with measurable results, the importance of norm-setting laws in supporting public health arguments should not be overlooked; they provide for a legally binding normative basis for scrutiny.

In the context of (child) oral health and dental caries specifically, Chapters 2 and 3 highlight the substantive guidance provided by international human rights law. The analysis conducted in Chapter 3 substantively awards significant value to the central role of sugars consumption

in caries development and the impact of dietary habits in childhood that persist into later life as behavioural factors – especially considering the fact that a number of interventions addressing sugars consumption appear to be cost-effective measures. Accordingly, it is presumed in this dissertation that norm-setting laws contribute to the protection and improvement of the maintenance of child oral health by providing societal actors, including civil society organizations, with a legally binding basis for scrutiny and offering policy makers a legally binding counterbalance against commercial interests that exist within society, through for example the right to health. Substantively, norm-setting law, particularly international human rights law, can contribute to fostering or strengthening the focus on population-level interventions, highlighting the need to address behavioural risk factors, particularly the consumption of sugars, through policies.

3. SCIENTIFIC AND SOCIETAL RELEVANCE OF THE DISSERTATION

This dissertation bridges the research areas or disciplines of dentistry, nutrition science and law. Although connections between dentistry and nutrition science, nutrition and law and dentistry and (human rights) law had previously been established, this dissertation is amongst the first to make the connection between the three disciplines, highlighting the (broad) relevance of this specific collaboration. The Bangkok Declaration (2024) highlights the need to '[a]dvance research on effective, evidence-based interventions for the prevention and management of oral diseases and develop national oral health research strategies supporting population-level programmes'.[950] The continued need for interdisciplinary collaboration has recently been reiterated in this context, emphasising that 'oral health does not exist in isolation, and neither should oral health research'.[951] The role of law and legal research(ers), however, appears to still be somewhat overlooked. The present dissertation puts weight on the importance of studying (and deploying) law to protect (child) oral health, emphasising the complexity of the relevant levels and areas of law; something that asks for the inclusion of legal expertise in oral health research.

The dissertation also contributes to our understanding of public health law. In the context of providing a framework to study law in the context of public health, the present dissertation introduces an explicit distinction between norm-setting and measure-setting laws in public health law research, particularly in the context of NCD prevention. Furthermore, it highlights the relevance of distinguishing between incidental and interventional public health laws in identifying measure-setting laws in the context of NCD prevention, especially in the

950 *Bangkok Declaration: No Health Without Oral Health* (World Health Organization, 2024) 6.

951 M Charles-Ayinde, H Benzian, JE Gallagher and others, 'The Bangkok Declaration: A Global Mandate for Oral Health Research and Universal Health Coverage' [2026] J Dent Res.

EU setting. This approach can help systematise and substantively broaden public health law research, especially in the context of NCD prevention, but could also be extended to questions in other context, including that of, for example, sustainability.

In terms of research methods, the research of this dissertation was conducted within the CDP programme of the European Commission's JRC - it placed a legal researcher at a unique position at the policy-science interface. The practical context in which this dissertation was carried out has had a strong impact on the direction adopted and methodological decisions made. As such, this experience furthers the development of an engaged approach to (public health law) research and can be at the basis for similar studies.

Finally, the introduction to this dissertation has emphasised the societal relevance of studying law in the context of child oral health through food environments. Dental caries remains the most prevalent NCD globally, with major impacts, whilst it is largely preventable. The approach adopted in this dissertation should foster structural attention for child oral health and the prevention of dental caries through the right to oral health as part of the norm-setting dimension of this dissertation; whilst the research conducted should also contribute to structural improvements in the law through the measure-setting dimension of this dissertation.



Epilogue

Wrapping up

The chapters of this dissertation indicate the multifaceted role law can play in the protection and maintenance of child oral health. This finding argues in favour of conducting further research within the scope of the present research project, while also highlighting a limitation of the research itself - many topics within the scope remain under-explored. Additionally, it also sets a basis for further research beyond the scope of the present research. As law is the central theme of the dissertation, being the object of study in all chapters, the proposals for future research are limited to the connection between oral health and (human rights) law, and the connection between food environments and law. Finally, some overarching considerations for other topics of interest are mentioned.

At the intersection of oral health and (human rights) law, particularly Chapter 3 gives a good idea of the breadth of issues that can be further explored in depth within the scope of this PhD research – specifically in the context of (child) oral health and the right to oral health. Chapter 3 identified four relevant factors in preventing dental caries, namely sugars consumption, oral hygiene, fluoride exposure and access to oral health care. Especially in light of public distrust of community level health interventions, as exemplified through vaccine refusal in the COVID-19 pandemic, it is surprising how limited the discussion about water fluoridation has been from a human rights perspective – particularly focusing on the interplay between the individual and collective dimensions of the right to health. Additionally, another interesting question that arose during the course of the present study, particularly in the peer review process of Chapter 2, was, for example, how the right to health relates to UHC and particularly the inclusion of oral health therein. Similarly, what does the right to health mean for essential oral health services – what is considered essential under the right to health? Finally, Chapters 2 and 3 argue in favour of population-based interventions, particularly stating that at first sight, adopting measures to discourage sugars consumption are more cost-effective than investing in the oral health care system. Collaborative efforts with health economists and epidemiologists considering specific legal interventions in this specific context may help deepen the understanding of the interplay between such interventions.

At the intersection of food environments and law, many concrete connections can be made. For example, the interplay between any two levels of (measure-setting) laws under any pillar of food environments could be more extensively studied, or more broadly, the interaction between domestic law and local health policies addressing unhealthy diets in general, as these two levels adopt more concrete policies in the context of unhealthy diets than the international or EU-levels. A similar study as presented in Chapter 4 can also be made for sustainable food environments: how can laws at multiple level contribute to a sustainable food environment? To what extent do the relevant laws studied overlap with the laws identified in this dissertation? In the context of norm-setting laws, the cross-fertilization in the context of the food environment that exists between different levels could also be studied further. To what extent do domestic laws and policies promoting a healthy food environment, for

example, take international human rights law into consideration? Taking a broader perspective, the different regimes under international law that impact the regulation of a particular pillar of the food environment, and their interaction, could be studied further.

A final concrete question that is timely relates to digital food environments. Individuals, including children, are increasingly exposed to advertising – where historically people had to leave their homes to encounter billboards or any other physical advertising spaces promoting a product or service, individuals can now be exposed to advertising in any space they use their smartphone. Tracing the advertising that people and children are exposed to is thereby also complicated. What legislation under EU law is applicable to these commercial communications and what are the practical limitations of the present state of legislation? If any rules limiting online advertising to children exist, what is the role of, for example, the EU's Digital Services Act to limit these practices?[952]

952 Regulation 2022/2065 on a Single Market for Digital Services and amending Directive 2000/31/EC [2-22] OJ L277/1.



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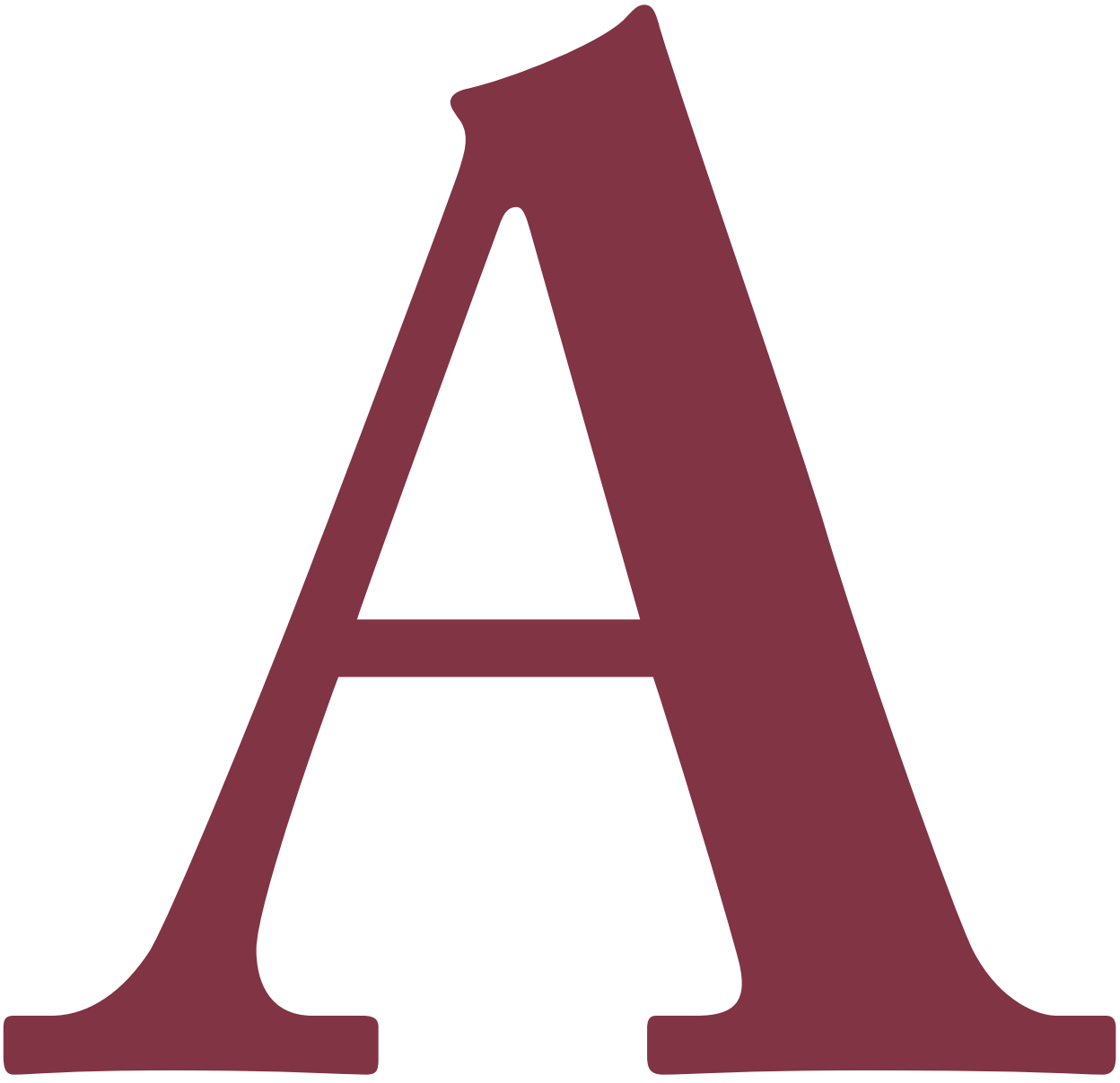


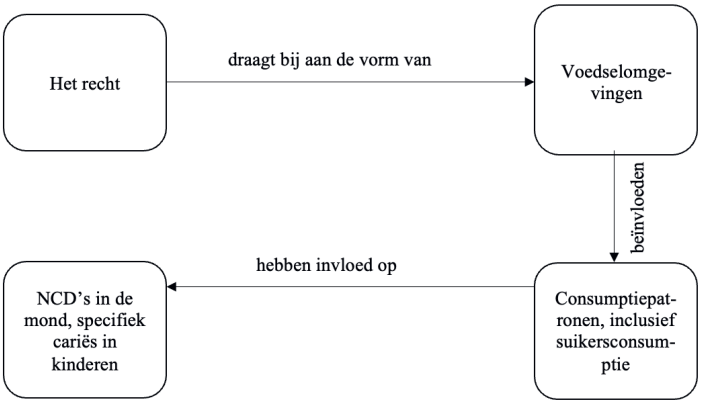
Annex

Annex 1
Nederlandse samenvatting
Annex 2
Curriculum Vitae

NEDERLANDSE SAMENVATTING

Cariës is momenteel een van de meest voorkomende niet-overdraagbare ziekten (non-communicable diseases, NCD's). Wereldwijd lijden twee miljard mensen aan deze aandoening in hun blijvend gebit, terwijl naar schatting 510 miljoen kinderen last hebben van cariës in hun melktanden, waardoor het ook de meest voorkomende NCD bij kinderen is. Cariës wordt gezien als gedragsgerelateerde ziekte, aangezien voeding – meer specifiek de consumptie van (vrije) suikers – de belangrijkste oorzaak is, terwijl andere gedragsfactoren, zoals mondhygiene en bezoek aan de tandarts, de effecten ervan verzachten. Cariës in melktanden is lange tijd over het hoofd gezien, omdat melktanden tijdens de kindertijd wisselen. Opvallend is echter dat de prevalentie en ernst van cariës op jonge leeftijd het hoogst zijn bij kinderen in kwetsbare situaties, en dat cariës ernstige gevolgen kan hebben die verder reiken dan de mondgezondheid en de kindertijd. De hoge wereldwijde prevalentie van cariës is opvallend, gezien het feit dat het grotendeels te voorkomen is.

Traditioneel domineerde een geïndividualiseerde benadering van mondgezondheid, waarbij de nadruk vooral lag op zorgbezoek in plaats van preventiestrategieën op populatieniveau. Er is echter een groeiende erkenning binnen de tandheelkundige volksgezondheid dat preventieve maatregelen op populatieniveau nodig zijn om mondziekten te voorkomen en een slechte mondgezondheid aan te pakken. Ook buiten de context van mondgezondheid wint het idee dat wetgeving een overkoepelende rol speelt bij de preventie van NCD's aan populariteit en wordt nu algemeen aanvaard. Wetten zijn bijzonder effectieve instrumenten om risicofactoren voor NCD's aan te pakken en een goede gezondheid te bevorderen, omdat ze de maatschappij structureren en daarmee de voorwaarden scheppen voor zowel goede als slechte gezondheid. Dit proefschrift onderzoekt de rol van wetgeving bij de preventie van NCD's in de context van (ongezonde) voedselomgevingen als drijvende kracht achter ongezonde voedingspatronen, een van de belangrijkste risicofactoren voor NCD's, door middel van preventieve maatregelen op populatieniveau.



Figuur 8. De verbanden in dit proefschrift

De centrale onderzoeksvraag van dit proefschrift is: hoe kan het recht bijdragen aan de bescherming en verbetering van de mondgezondheid van kinderen, met name de preventie van cariës? Het proefschrift is verdeeld in drie delen, die elk relevante wetgeving bestuderen binnen een specifiek thema. De thema's variëren van cariës als NCD en de (ongezonde) voedselomgeving als sturende factor van ongezonde diëten (en daarmee NCD's), tot NCD-preventie in het algemeen. Het eerste deel van dit proefschrift onderzoekt het recht op mondgezondheid in het kader van internationale mensenrechten; het tweede deel beschouwt de rol van het recht bij het vormgeven van de voedselomgeving; en het derde deel bestudeert het Europese Unie (EU) recht met betrekking tot NCD-preventie als onderdeel van het volksgezondheidsrecht.

Hoewel de reikwijdte van dit proefschrift inhoudelijk beperkt blijft tot het toepasselijk recht in de context van cariës (mondgezondheid) en de voedselomgeving, overstijgt het meerdere grenzen. Ten eerste reikt de studie van het recht verder dan de grenzen van rechtsstelsels, waaronder internationale, EU, nationale en – in beperkte mate – lokale wetten en regelgeving. Ten tweede blijft het in dezelfde context niet beperkt tot één rechtsgebied, maar behandelt het meerdere rechtsgebieden, waaronder mensenrechten, handelsrecht, levensmiddelenrecht en publieke gezondheidsrecht. Ten slotte overstijgt dit proefschrift de disciplinaire grens van het recht door juridische analyses aan te vullen met inzichten uit de tandheelkunde, volksgezondheid en voedingswetenschappen – door samenwerking met andere relevante disciplines, de integratie van niet-juridische informatie in juridische analyses en beoogde publicatie in wetenschappelijke juridische, volksgezondheids- en tandheelkundige tijdschriften.

Door deze overkoepelende benadering is de belangrijkste bijdrage van dit proefschrift dat het de veelzijdige en gelaagde rol van het recht bij de preventie van NCD's benadrukt. Wetten stellen niet alleen normen vast die het algehele systeem vormgeven (normstellende wetten), maar ook maatregelen die de samenleving actief vormgeven (maatregelstellende wetten). Beide soorten wetten opereren op meerdere niveaus. Voor het laatstgenoemde type moet worden opgemerkt dat er een complexe wisselwerking bestaat tussen de verschillende niveaus, met name het EU- en het nationale niveau. Bovendien worden incidentele gezondheidswetten dat wil zeggen wetten die niet per se een doelstelling op het gebied van de volksgezondheid hebben, aangemerkt als belangrijke potentiële determinanten van gezondheid. Op basis van deze bevindingen dient dit proefschrift tevens als een uitnodiging aan onderzoekers en praktijkprofessionals buiten het vakgebied van het volksgezondheidsrecht om de krachten te bundelen.

Deel I (hoofdstukken 2 en 3) onderzoekt het recht op mondgezondheid onder internationaal recht, met name het Internationaal Verdrag inzake de Rechten van het Kind (IVRK) en het Internationaal Verdrag inzake Economische, Sociale en Culturele Rechten (IVESCR). Een op kinderrechten gebaseerde benadering wordt benadrukt, aangezien slechte mondgezondheid gevolgen heeft die van generatie op generatie kunnen worden doorgegeven – wat betekent

dat een slechte mondgezondheid in de kindertijd via gedragsfactoren ook na de kindertijd nog gevolgen kan hebben. Dit vormt de basis voor de rest van het proefschrift, dat focust op interventies op populatieniveau om tandbederf en niet-overdraagbare ziekten in het algemeen aan te pakken.

Hoofdstukken 2 en 3 stellen dat het recht op mondgezondheid een integraal onderdeel is van het recht op de hoogst haalbare standaard van lichamelijke en geestelijke gezondheid, aangezien mondgezondheid zelf een integraal onderdeel is van de algemene gezondheid. Een slechte mondgezondheid kan dus de uitoefening van het recht op gezondheid beperken. Aangezien ernstige, onbehandelde cariës bij kinderen de eetgewoonten kan beïnvloeden, moet dit daarom worden beschouwd als een mogelijke oorzaak van ondervoeding (artikel 24(2)(c) IVRK). Bovendien is het relevant om maatregelen te richten op kinderen om de uitoefening van het recht op gezondheid gedurende hun hele leven te waarborgen, aangezien de kindertijd bepalend is voor de latere (mond)gezondheid en cariës in de kindertijd intergenerationele en intragenerationele effecten heeft. Cariës kan ook gevolgen hebben voor de vervulling van andere rechten. Een slechte mondgezondheid, waaronder cariës, kan bijvoorbeeld schadelijk zijn voor het sociale leven en functioneren, en daardoor rechten met betrekking tot de ontwikkeling van kinderen beïnvloeden (artikelen 6(2) en 27(1) van het IVRK). Bovendien wordt een slechte mondgezondheid in verband gebracht met schoolverzuim en een verminderde academische ontwikkeling, wat zorgen baart in de context van het recht van kinderen op onderwijs (artikel 12(1)(e) IVRK).

Hoofdstukken 2 en 3 brengen de verplichtingen van overheden in het kader van het kinderrecht op mondgezondheid in kaart met het oog op de risico- (en matigende) factoren van cariës. Cariës ontstaat wanneer frequente suikerconsumptie de microbiële balans van de tandplak op het tandoppervlak verandert in een cariogene balans. Dergelijke cariogene tandplak kan gemakkelijk metaboliseren en zuren vormen die de twee harde tandweefsels – glazuur en dentine – oplossen, wat leidt tot de ontwikkeling van cariëslaesies. Het is dan ook de vorming en het voortbestaan van deze zuren die moeten worden onderbroken om cariës te voorkomen. Vier (gedrags)factoren die via wetgeving kunnen worden aangepakt of gewijzigd, kunnen worden geïdentificeerd. Ten eerste moet de frequentie en de hoeveelheid (vrije) suikers die worden ingenomen, worden beperkt om de ontwikkeling van cariëslaesies te voorkomen. Ten tweede helpt het verwijderen van cariogene tandplak door middel van adequate poets- en stookgebruiken. Dat beperkt de tijd dat de plak op het tandoppervlak aanwezig is, waardoor het mondmilieu verbetert. Ten derde verhoogt blootstelling aan lage fluorideconcentraties, hetzij via tandpasta met fluoride of via fluoridering van het drinkwater, de weerstand van het glazuur tegen demineralisatie. Ten vierde kunnen mondzorgprofessionals helpen bij het voorkomen en behandelen van cariës.

Hoofdstuk 3 interpreteert de verplichtingen van staten die voortvloeien uit de mensenrechten in de context van elk van de bovengenoemde factoren ((vrije) suikers consumptie, mondhy-

giëne, blootstelling aan fluoride en mondzorg). In de context van het aanpakken van (vrije) suikerconsumptie als de belangrijkste risicofactor voor cariës, zijn de verplichtingen onder het recht op gezondheid breed. Zo dragen internationale mensenrechten staten op ongezond gedrag wat waarschijnlijk leidt tot vermijdbare (aan voeding gerelateerde) ziekte en sterfte niet te bevorderen. Verder hebben staten ook een verplichting de activiteiten van derden te reguleren, waaronder industrieën wiens praktijken schadelijk kunnen zijn voor de (volks) gezondheid. Individuen moeten ook worden geholpen met de beschikbaarheid van voedzaam en veilig voedsel, en informatie. Voorbeelden van passende preventieve (wettelijke) maatregelen zijn onder andere belastingen op suikerhoudende dranken, reclame- en promotiemaatregelen of -verboden, en verplichte etikettering (op de voorkant van de verpakking). Interventies om suikerconsumptie aan te pakken lijken geen grote kostenposten voor staten te zijn. Sommige van deze preventieve interventies worden door de WHO aanbevolen als kosteneffectieve interventies om NCDs in het algemeen, en zelfs cariës in het bijzonder, aan te pakken en te voorkomen. Dergelijke maatregelen worden ook erkend als onderdeel van algemene strategieën ter preventie van NCDs en zullen daardoor waarschijnlijk ook bijdragen aan de preventie van andere NCD's. Volgens het recht op gezondheid, zouden dergelijke maatregelen daarom prioriteit moeten krijgen.

In de context van mondhygiëne moeten staten een evenwicht vinden tussen enerzijds het niet verstoren van de relatie tussen verzorgers en kinderen, en anderzijds het voorzien van die verzorgers van middelen, zoals informatie en ondersteuning, om ervoor te zorgen dat kinderen opgroeien op een manier die de bevordering van hun rechten waarborgt. De verplichtingen van staten zijn daarom met name relevant voor het verstrekken van informatie aan ouders, verzorgers en kinderen. In de context van blootstelling aan fluoride moet worden opgemerkt dat fluoride in zijn topische vorm is toegevoegd aan de 22e WHO-modellijst van essentiële geneesmiddelen en de 8e WHO-modellijst van essentiële geneesmiddelen voor kinderen, wat betekent dat het nu tot de kern van het recht op gezondheid behoort. Fluoride kan individueel worden toegediend door te poetsen of tijdens fluoridebehandelingen, of op gemeenschapsniveau via gefluorideerd water, zout of melk. In elk geval hebben staten de verplichting om te zorgen voor passende verstrekking, verkoop en gebruik van essentiële geneesmiddelen om nadelige gezondheidseffecten te voorkomen.

De verplichtingen van staten in de context van mondgezondheidszorg zijn zeer breed. Gezondheidszorg moet verder gaan dan alleen curatieve zorg en ook preventieve zorg omvatten, en investeringen in curatieve zorg mogen niet onevenredig veel aandacht krijgen. Ten slotte moet universele toegang tot eerstelijnszorg prioriteit hebben en mag het onvermogen om te betalen geen belemmering vormen voor het recht van een kind op toegang tot gezondheidszorg.

Deel II (hoofdstukken 4 en 5) richt zich op de rol van wetgeving in de voedselomgeving. Het onderzoekt met name hoe wetgeving de structuur van voedselomgevingen bepaalt. Voed-

selomgevingen zijn de ruimtes waarin individuen beslissingen nemen over hun voedselconsumptie. Het theoretische kader van voedselomgevingen is gebaseerd op meerdere pijlers, waaronder – in brede zin – toegankelijkheid, betaalbaarheid, voedselpromotie, reclame en informatie (wenselijkheid), en voedselkwaliteit en -veiligheid. Al deze categorieën of pijlers kunnen wettelijk worden gereguleerd, en hoofdstuk 4 laat zien dat er een complexe wisselwerking bestaat tussen de verschillende rechtsniveaus.

Hoofdstuk 4 onderzoekt de rol van wetgeving bij het bepalen van voedselomgevingen in de EU. Het verkent deze rol (niet-uitputtend) door een breed perspectief te hanteren: het omvat het toepasselijke internationale recht, het EU-recht, het nationale recht en (in beperkte mate) lokale wetgeving. Het hoofdstuk maakt onderscheid tussen twee soorten wetgeving, namelijk wetgeving die maatregelen vaststelt en wetgeving die normen vaststelt, die beide (in verschillende mate) op alle vier de genoemde niveaus voorkomen. Maatregelstellende wetten zijn wetten die dichter bij het daadwerkelijke gedrag en de consumptiekeuzes van individuen staan, zoals reclamevoorschriften en etiketteringseisen. Dit soort wetten stelt de verschillende systemen of componenten vast die samen de voedselomgeving vormen. Normstellende wetten daarentegen bieden een normatief systeem voor het ontwerpen, aannemen, toetsen, evalueren en herzien van wetten die de voedselomgeving concreet reguleren. Deze wetten hebben niet altijd een directe impact op individuen of consumenten in het dagelijks leven, maar zijn wel normatief voor het gehele systeem.

Overheden en regelgevers geven vorm aan de voedselomgeving door te bepalen welke ruimte private actoren bijvoorbeeld hebben om hun commerciële belangen na te streven. Daarbij moeten overheden of regelgevers in wezen een evenwicht vinden tussen publieke belangen, waaronder de volksgezondheid, en commerciële belangen. Verder wordt opgemerkt dat (de pijlers van) de voedselomgeving niet noodzakelijkerwijs worden gevormd door wetgeving op één niveau, maar dat er een complexe wisselwerking bestaat tussen wetgeving op verschillende niveaus. Wetten die op een hoger niveau worden aangenomen, kunnen het recht (en de vrijheid) van lagere overheden om te reguleren beperken. Om die reden is het ook belangrijk om de co-regulerende wisselwerking te benadrukken, met name tussen het EU-niveau en de lidstaten – waar een complexe 'lappendeken' van wetgeving de vorm bepaalt van de voedselomgeving waaraan individuen worden blootgesteld. Dit benadrukt de noodzaak van expertise op verschillende rechtsniveaus, evenals op verschillende rechtsgebieden, voor het vormgeven van (gezondere) voedselomgevingen: samenwerking is niet alleen nodig tussen juridische onderzoekers en onderzoekers op het gebied van volksgezondheid, maar ook binnen de rechtsgeleerdheid zelf.

Hoofdstuk 5 dient als casestudy. Het onderzoekt de Nederlandse regelgeving inzake voedselreclame en analyseert kritisch het toepasselijke regelgevingskader in het licht van de normen die zijn vastgesteld door het recht op gezondheid en het recht op voedsel onder het IVESCR

en het IVRK. Bij deze analyse wordt in wezen een nationaal kader kritisch getoetst aan een (internationaal) normstellend juridisch kader.

De Nederlandse regelgeving bestaat uit een niet-bindende code die onder andere door de industrie zelf wordt gereguleerd. Het reguleert reclame in het algemeen en bevat een specifieke code voor levensmiddelen, waarvan de regels in februari 2026 zijn aangescherpt. Dit hoofdstuk richt zich met name op drie aspecten: 1) welke partijen de regelgevende bevoegdheid hebben; 2) welke groepen door de regelgeving worden beschermd; en 3) welke media worden gereguleerd. Het betoogt dat, ondanks de recent ingevoerde, aangescherpte regels, het Nederlandse regelgevingsstelsel op alle drie de punten onvoldoende inclusief is.

Wat betreft het eerste aspect, namelijk welke partijen de regelgevende bevoegdheid hebben, kent het zelfreguleringssysteem inherent een belangenconflict, zowel in de normstelling als in de handhaving. De bescherming van de volksgezondheid is ook geen primair belang of doel van de Nederlandse regulering, wat daardoor ook niet de standaarden van het vastgestelde mensenrechtenkader behaalt. De aanbeveling op dit aspect benadrukt dan ook de noodzaak om wettelijke bepalingen voor reclame voor levensmiddelen vast te stellen, om een adequate afweging van belangen te waarborgen en belangenconflicten te voorkomen. In de context van de tweede dimensie, namelijk welke groepen bescherming genieten, worden de rechten op gezondheid en voeding van volwassenen en kinderen boven de 16 jaar onvoldoende gewaarborgd in het huidige regelgevingskader. Het mensenrechtenkader vereist adequate bescherming voor alle kinderen, terwijl volwassenen ook tot op zekere hoogte beschermd zouden moeten worden. De aanbevelingen in hoofdstuk 5 herhalen daarom de noodzaak om primair te zorgen voor adequate bescherming van kinderen, en bevelen tevens verdere bescherming aan voor volwassenen, boven op de beginselen van consumentenbescherming. Tot slot blijkt het Nederlandse regelgevingskader ook onvoldoende inclusief te zijn ten opzichte van het mensenrechtenkader wat betreft de soorten media die eronder vallen. Hoewel online reclame onderworpen is aan dezelfde regels als offline reclame, blijkt de handhaving van deze regelgeving in de praktijk lastig; dit laat lacunes in de onlinewereld en is dus onvoldoende inclusief ten opzichte van de normen die voortvloeien uit de mensenrechten. De aanbevelingen benadrukken daarom de noodzaak van duidelijke en coherente richtlijnen om te bepalen welke soorten commerciële communicatie op welke platforms en voor welk publiek zijn toegestaan.

Deel III (hoofdstuk 6) bestudeert het EU-recht als volksgezondheidsrecht, met name de impact ervan op de incidentie van NCD's. Hoofdstuk 6 past het door Burris en collega's ontwikkelde kader voor volksgezondheidsrecht toe op de EU-context. Het richt zich met name op de regulering van drie producten waarvan de consumptie tot de belangrijkste risicofactoren voor NCD's behoort: tabak, alcohol en (ongezonde) voeding. Dit kader onderscheidt drie typen volksgezondheidsrecht. Simpel gezegd: infrastructureel volksgezondheidsrecht beschrijft de bevoegdheden, plichten en instellingen van het volksgezondheidsrecht; inter-

ventioneel volksgezondheidsrecht is wetgeving die de volksgezondheid bewust beïnvloedt; en incidenteel volksgezondheidsrecht is wetgeving die onbedoeld een impact heeft op de volksgezondheid. Het hoofdstuk voegt een vierde type toe, namelijk EU soft law in de context van volksgezondheid, gezien de prominente rol van niet-bindende initiatieven in de context van de volksgezondheid op EU-niveau. Er wordt opgemerkt dat het onderscheid tussen interventionele en incidentele gezondheidswetgeving relevante inzichten biedt in het EU-volksgezondheidsrecht en de gezondheid in alle beleidsdomeinen (health in all policies) binnen de EU kan bevorderen.

De bevoegdheden van de EU, die in het kader van hoofdstuk 6 worden gecategoriseerd als infrastructureel EU-volksgezondheidsrecht, vormen de kern van de reden waarom incidentele volksgezondheidswetgeving en soft laws bestudeerd zouden moeten worden. De Unie kan alleen acties ondernemen ter ondersteuning, coördinatie of aanvulling van de acties van de lidstaten in het kader van de bescherming van de volksgezondheid, en de harmonisatie van wetten is uitdrukkelijk uitgesloten van haar wetgevingsmogelijkheden. Er kan echter een beroep worden gedaan op andere rechtsgrondslagen op grond waarvan de EU wetgevende bevoegdheden heeft en die nog steeds een hoog niveau van bescherming van de volksgezondheid moeten waarborgen.

De interventionele EU-wetgeving op het gebied van de volksgezondheid is divers en het voorbeeld van de Richtlijn audiovisuele mediadiensten laat zien dat, zelfs als EU-wetgeving een doelstelling op het gebied van de volksgezondheid erkent, de inhoud van de wetgeving vanuit een volksgezondheidsperspectief nog steeds tekort kan schieten. Hoofdstuk 6 onderscheidt twee typen incidentele EU-wetgeving op het gebied van de volksgezondheid: wetgeving die weliswaar onder een erkende interventie op het gebied van de volksgezondheid valt, maar die een dergelijke doelstelling niet nastreeft; en wetgeving die niet als interventie op het gebied van de volksgezondheid wordt erkend, maar wel een impact heeft op de volksgezondheid. De voorbeelden op het gebied van het mededingingsrecht tonen aan dat bepaalde (uitvoerings)besluiten botsen met de EU-verplichting om een hoog niveau van bescherming van de volksgezondheid te waarborgen bij de uitvoering van al het Uniebeleid. Tot slot belicht het hoofdstuk de rol van EU soft law op het gebied van de volksgezondheid. Het laat zien dat de EU, zelfs zonder wetgevende bevoegdheden uit te oefenen, actief blijft met betrekking tot de drie risicofactoren voor NCDs die in hoofdstuk 6 worden onderzocht – tabak, alcohol en ongezonde voeding – door middel van politieke betrokkenheid, financiering en het faciliteren van samenwerking tussen de lidstaten.

Reflecterend op de thematisch verspreide bevindingen van de hoofdstukken, is de belangrijkste bijdrage van dit proefschrift, en daarmee de kernboodschap, dat om de volksgezondheid te bevorderen en NCD's te voorkomen, het recht niet geïsoleerd bestudeerd moet worden. Het moet juist worden beschouwd als een alomvattend systeem dat van invloed is op risicofactoren op verschillende niveaus en in verschillende rechtsgebieden, inclusief gebieden

die andere belangen nastreven dan de volksgezondheid. Het onderscheid tussen wetgeving die maatregelen vaststelt en wetgeving die normen vaststelt, geeft bovendien aan dat het recht ook op verschillende manieren kan worden ingezet. De bestaande academische en praktische kennis over de rol van het recht in het voorkomen van niet-overdraagbare ziekten kan bovendien ook inspiratie bieden voor het bevorderen van strategieën op populatieniveau die zich richten op de gedragsmatige risicofactoren van mondziekten, waaronder cariës. Dit proefschrift beoogt hiervoor een basis te leggen. Het dient daarom als een oproep aan iedereen: samenwerking is nodig, voorbij de grenzen van rechtsstelsels, juridische disciplines en wetenschappelijke disciplines, om de gezondheid te bevorderen en NCD's te voorkomen.

CURRICULUM VITAE

Dominique Mollet joined the Faculty of Law as a PhD candidate at the Groningen Centre for Health Law in 2021. From 2022 to 2024, she conducted doctoral research at the Joint Research Centre of the European Commission (Ispra, Italy) under the Collaborative Doctoral Partnership programme. She returned to Groningen from 2024 to 2026 as a lecturer and PhD researcher. She was mainly involved in coordinating and teaching in the LLM Health and Technology Law, for which she developed and taught the course Seminar Health and Technology Law in the 21st Century. She also delivered lectures for, among other courses, International Health Law and Health Law in Context.

Besides conducting doctoral research, she undertook various other academic activities. She presented at international conferences, workshops, and other academic events, including the Summer School Promoting Sustainable Health Systems in Africa (January 2025, Arusha, Tanzania), the European Association for Public Health Conference (November 2024, Lisbon, Portugal), the Health Law Professors Conference at Temple University (June 2024, Philadelphia, US), and a World Health Organization workshop on law and tobacco control (December 2023, Oslo, Norway). She participated in multiple research projects, including an interdisciplinary collaboration with the University of Hamburg on local smoke- and aerosol free policies in the North of the Netherlands and Germany.

Additionally, Dominique sought for societal engagement. She contributed to policy-related developments in the context of tobacco and related products, including for the European Commission (support study for the 2026 evaluation of the tobacco acquis on the current scope of regulation of digital advertising of tobacco and related products) and the Dutch Parliament (report on the permissibility and effectiveness of innovative domestic measures to address the price of tobacco and related products, as the lead author of an interdisciplinary team). She furthermore contributed to the fourth evaluation of the Dutch Act on Medical Research Involving Human Subjects and the Central Committee on Research Involving Human Subjects.

Prior to her PhD research, Dominique obtained a BA in International Relations and International Organizations (University of Groningen, 2019), an LLM in Public International Law (University of Groningen, 2021) and an LLM in European Economic Law (cum laude, University of Groningen, 2021). She also gained international experience during this time, including as an intern at the Embassy of the Kingdom of the Netherlands in Costa Rica (2019), where she focused on the protection of human rights defenders in Central America; as a student delegate at the 72nd World Health Assembly (2018, Geneva, Switzerland); and as an exchange student at the National Taiwan University (2017, Taipei, Taiwan), where she followed public health courses.

Dominique's research interests are primarily centred on law as a structural determinant of health. She is particularly interested in the regulation of NCD risk factors and takes a transboundary legal perspective, studying the interaction between multiple levels and areas of law. Her research interests also extend to broader questions of law, including in the areas of human rights law and EU law, and public health, including questions related to the commercial determinants of health.

Non-communicable diseases (NCDs) are a major public health concern of our time. Oral NCDs, including dental caries, are the most prevalent globally. Dental caries is behavioural in nature, as the consumption of (free) sugars is the single driver of the disease, while other factors, including dental care attendance, mitigate its effect. This highlights the potential for population-level measures addressing these behavioural risk factors, particularly in the context of food environments, and, thereby, the potential of law in (oral) NCD prevention strategies: laws are particularly effective tools to address risk factors of NCDs and promote good health, as they structure society and thereby establish the conditions for both good and poor (oral) health.

This dissertation explores the role of law in preventing NCDs, including dental caries in children. It studies the relevant law in a broad sense, transcending the boundaries of legal orders – covering international law, European Union law, as well as some domestic and local law – and extending beyond legal regimes – covering multiple areas of law including human rights law, trade-related laws, food law and public health law. Although the research conducted is largely legal, the dissertation aims to speak to a broad audience: it should serve as an invitation to academics, advocates, and practitioners in the disciplines of law, oral health, and public health to join forces.