Health and Nutrition in Current EU Food Law: A Systematic Review

*Maria El Gemayel, Hanna Schebesta**

This research explores the capacity in which the EU's food legal framework covers nutrition and health aspects. Recent policy actions in the European Union (EU) focus on nutrition-related health, given the rising trend of unhealthy dietary patterns in the European region. However, setting relevant health and nutrition policy objectives is complex when the legislative framework for these objectives is not clearly defined. To explore this topic, we systematically reviewed EU food law and extracted all indicators for health and nutrition. We then studied the indicators' relationships to one another and their role in legislation. Key findings suggest selective frameworks for health and nutrition. Health is mainly addressed through food safety, and nutrition is addressed though an objective approach to information to consumers and compositional requirements. Despite these selective frameworks, we found that food law has the potential to define and develop a nutrition and health nexus that targets both ends of the food chain: production and consumption. This starts with the alignment of health and nutrition objectives in legislation and policy.

Keywords: European Union, food law, health, nutrition, legislation, policy

I. Introduction

How Are Health and Nutrition Captured in EU Food Policy and Current EU Food Law and What Does This Suggest for Future Food Law?

Poor dietary patterns are a leading driver of poor health, characterised by inexpensive, calorie-dense, processed, and widely available foods.[1] These patterns are strongly linked to malnutrition, obesity, and related non-communicable diseases (NCDs),[2] and there is evidence of poor nutrition throughout the European region.[3] Research has shown that the ease of access to such foods is a contributing factor, and that loose regulatory models facilitate the spread of these diets.[4] This calls into question how the European Union (EU) pursues health and nutri-

* Wageningen School of Social Sciences (WASS), Wageningen University and Research, Wageningen, Netherlands.

1 For an overview, see IPES-Food, 'Unravelling the Food-Health Nexus: Addressing Practices, Political Economy, and Power Relations to Build Healthier Food Systems' (2017); David S Ludwig, 'Technology, Diet, and the Burden of Chronic Disease' (2011) 305 JAMA 1352; Carlos Monteiro and others, 'The Food System. Ultra-Processing: The Big Issue for Nutrition, Disease, Health, Well-Being' (2012) 3 World Nutrition <https://worldnutritionjournal.org/index.php/wn/article/view/358> accessed 5 June 2023; Rob Moodie and others, 'Profits and Pandemics: Prevention of Harmful Effects of Tobacco, Alcohol, and Ultra-Processed Food and Drink Industries' (2013) 381 Lancet (London, England) 670.

2 Jessica L Johnston, Jessica C Fanzo and Bruce Cogill, 'Understanding Sustainable Diets: A Descriptive Analysis of the Determinants and Processes That Influence Diets and Their Impact on Health, Food Security, and Environmental Sustainability123' (2014) 5 Advances in Nutrition 418, at pp. 418-419; United Nations Environment Programme, '9 Ways Food Systems Are Failing Humanity' (*UNEP*, 13 September 2021) <http://www.unep.org/news-and-stories/story/9-ways-food-systems-are-failing-humanity> accessed 9 October 2022; FAO United Nations, 'The State of Food Insecurity in the World' (2015) <http://www.fao.org/3/a-i4646e.pdf> accessed 17 January 2022; European Commission, 'Food 2030 Pathways for Action: Research and Innovation Policy as a Driver for Sustainable, Healthy and Inclusive Food Systems' (2020); WHO, 'Fact Sheets - Malnutrition' <https://www.who.int/news-room/fact-sheets/detail/malnutrition> accessed 5 September 2022; Michael Via, 'The Malnutrition of Obesity: Micronutrient Deficiencies That Promote Diabetes' (2012) 2012 ISRN Endocrinology.

3 Holly Rippin and others, 'Adult Nutrient Intakes from Current National Dietary Surveys of European Populations' (2017) 9 Nutrients 1288; WHO, 'Better Food and Nutrition in Europe: A Progress Report Monitoring Policy Implementation in the WHO European Region' (2018).

4 Roberto De Vogli, Anne Kouvonen and David Gimeno, 'The Influence of Market Deregulation on Fast Food Consumption and Body Mass Index: A Cross-National Time Series Analysis' (2014) 92 Bulletin of the World Health Organization 99.

tion objectives in current EU food law and governance.

1. Health and Nutrition: From Food Policy to Food Law

In the course of EU integration, food crystallised as a distinct EU policy domain gradually. It was first identified as a field of the internal market[5] and later emerged as a policy field of its own right in the *Communication on Consumer Health and Food Safety*[6] and the *Green Paper on the General Principles of Food Law in the European Union.*[7] The Green Paper proposed a dual approach to food through the concepts of safety and wholesomeness.[8] However, in subsequent policy developments, wholesomeness was dropped.

The subsequent *White Paper on Food Safety*[9] (2000) famously cemented the sectoral approach to regulating the food domain in the European Union under the food safety paradigm alone. It led to the adoption of the 2002 food law package—comprising the legal umbrella framework of the General Food Law Regulation (GFLR),[10] the creation of the European Food Safety Authority (EFSA), and the establishment of over 80 related secondary legal instruments.

The *White Paper on Food Safety* aimed to protect consumer health by attributing primary responsibility for food safety to industry, producers, and suppliers.[11] It also aimed to ensure the intake of essential nutrients and limit the intake of other elements that could have adverse health effects, including anti-nutritional effects,[12] including to avoid unfavourable consequences on consumers' health that might stem from emerging products with modified nutritional value. In a 2000 *Council Resolution on health and nutrition*[13] released after the White Paper, the European Council called for the promotion of citizen knowledge on healthy dietary habits to enable healthier food choices. The Resolution recommended to consider nutritional health in Community policymaking. It specifically focused on scientific research in the area of nutritional health to update dietary guidelines and consumer information and to target the links between health and nutrition, diet-related diseases, and the impact of health and nutrition policies.[14]

Several nutrition initiatives were then introduced. The 2006 *Council Conclusions on promotion of healthy lifestyles and prevention of Type 2 diabetes*[15] aimed to develop a comprehensive strategy for diabetes prevention. However, and while it stressed the importance of multisectoral cooperation, it did not address food production, but only lifestyle changes and medical approaches for early screening and treatment. The European Commission's 2007 White Paper on a *Strategy for Europe on Nutrition, Overweight and Obesity-Related Health Issues*[16] addressed the need to reduce ill health due to poor nutrition on two fronts: promoting healthier choices through labelling and making healthy options available. The 2009 *School Fruit, Vegetables, and Milk Scheme*[17] provided subsidies to schools to offer fresh fruits, vegetables, and milk to their pupils free of charge. It is now available in all EU member states. The 2014 EU *Action Plan on Childhood Obesity* sets out a number of measures to reduce the prevalence of childhood obesity in the EU.[18] While the plan recognises the health impacts of increased consumption of processed foods, its actions are centred around promoting lifestyle

5 White Paper from the Commission to the European Council, Completing the Internal Market COM/85/310 final (1985 Commission of the European Communities).

6 Commission, 'Consumer Health and Food Safety' (Communication) COM (97) 183 final.

7 Commission, 'The General Principles of Food Law in the European Union' COM (97) 176 final (Commission Green Paper).

8 Ibid. at pp. 3, 12 and 44.

9 Commission of the European Communities, 'White Paper on Food Safety of 12 January 2000 [COM/99/0719 Final]' (2000).

10 Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety, OJ 2002 L31/1 (General Food Law—GFL).

11 Commission of the European Communities (n 9), 3.

12 Ibid., 33, para. 104.

13 Council Resolution of 14 December 2000 on health and nutrition [Official Journal C20 of 23 January 2001].

14 Ibid.

15 European Council, 'Council Conclusions on Promotion of Healthy Lifestyles and Prevention of Type 2 Diabetes (2006/C 147/01).'

16 Commission of the European Communities, 'White Paper on A Strategy for Europe on Nutrition, Overweight and Obesity Related Health Issues, COM(2007) 279 Final'.

17 European Commission, 'School Fruit, Vegetables and Milk Scheme' (2009) <https://agriculture.ec.europa.eu/common-agricultural-policy/market-measures/school-fruit-vegetables-and-milk-scheme_en> accessed 1 November 2023.

18 European Commission, 'EU Action Plan on Childhood Obesity 2014-2020'.

changes and restricting marketing to children. The 2018 *EU Framework for national initiatives on selected nutrients*[19] provides a framework for EU member states to develop and implement their own national food and nutrition policies. It does this through promoting data collection and analysis, reformulation and changing portion sizes, public awareness, and monitoring and evaluation of the plan.

The Farm to Fork Strategy (F2F Strategy), as part of the EU Green Deal policy package, is the main current policy initiative with transformative potential for future legislative and policy developments in the EU food system.[20] Published in 2021, it set to achieve a fair, healthy, and environmentally friendly food system for Europe. This title points to health as a central ambition of the F2F Strategy and suggested that there will be strong actions to enshrine health in the resulting legal actions. One of the Strategy's main objectives is to improve human health through better nutrition.[21] It states that years of policymaking have resulted in a strong integration of the nutrition factor in the current European food system.[22] However, the Strategy also reports unsustainable food consumption patterns from a health perspective.[23] It addresses these issues in an action plan aiming to improve human health through better nutrition.[24] This raises questions about how well the EU Farm to Fork policy will be able to translate the objectives of health and nutrition into EU food legislation, and what its value added is compared to the current state of EU food law.

2. Research Questions

Previous research on health and nutrition policies on food evaluated the effectiveness of regional policy for European countries in a review of the implementation of the WHO's 2015-2020 European Food and Nutrition Action Plan (FNAP) in the Member States.[25] The FNAP targeted policy actions and guidelines to support healthy diets and prevent obesity.[26] Breda et al. found that the FNAP significantly contributed to improvements in public health nutrition, specifically product reformulation, transfats limits and fiscal policies.[27] However, they also reported that policies targeting front-of-package labelling and marketing restrictions still required further efforts.[28] On a national food policy level, Pineda et al. evaluated the implementation of food environment policies in 11 European countries and identified priority actions for governments to create healthy food environments.[29] Their results indicate a need for stronger food policies promoting food healthiness to improve food environments and their effects on human health.[30] From a Union policy perspective, this result is supported by additional research findings that European food environment policies' effectiveness remains shrouded in uncertainty due to the absence of a unified and systematic evaluation framework.[31] This lack of transparency hinders efforts to create healthier food environments and improve population nutrition. Additional research indicates that the coherence of EU policies on food in relation to one another and their overall effectiveness is also disput-

19 Directorate-General for Health and Food Safety, 'EU Framework for National Initiatives on Food and Nutrition'.

20 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system COM/2020/381 final (European Commission, 2020).

21 Sara Capacci and others, 'Policies to Promote Healthy Eating in Europe: A Structured Review of Policies and Their Effectiveness' (2012) 70 Nutrition Reviews 188.

22 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system COM/2020/381 final (European Commission, 2020) (n 20), 4.

23 Ibid., 14; Walter Willet and others, 'Food in the Anthropocene: The EAT-Lancet Commission on Healthy Diets from Sustainable Food Systems' (2019) 393 Lancet 447.

24 Capacci and others (n 21).

25 Joao Breda and others, 'Towards Better Nutrition in Europe: Evaluating Progress and Defining Future Directions' (2020) 96 Food Policy 101887.

26 World Health Organization, 'European Food and Nutrition Action Plan 2015–2020' <https://www.who.int/europe/publications/i/item/9789289051231> accessed 26 September 2023.

27 Breda and others (n 25).

28 Ibid.

29 Elisa Pineda and others, 'Policy Implementation and Priorities to Create Healthy Food Environments Using the Healthy Food Environment Policy Index (Food-EPI): A Pooled Level Analysis across Eleven European Countries' (2022) 23 The Lancet Regional Health. Europe 100522.

30 Ibid, 21.

31 Janas Harrington and others, *Policies for Tackling Obesity and Creating Healthier Food Environments in Ireland: Food-EPI 2020* (2020).

ed.[32] In a general context, the literature on the need to better integrate health and nutrition in research and policy is extensive.[33] Developing robust health and nutrition frameworks represents the first step in addressing this discordance. However, the efficacy of such approaches to improve health is questioned, as they primarily take the perspective of policy, agenda-setting, and coordinated action (e.g., see Zurek et al.[34]), with less focus on legally binding actions.[35]

Legal research on nutrition and health in EU law is even more rare. Walls et al. examined the role of nutrition and health in the EU's Common Agricultural Policy (CAP).[36] Although the CAP does not primarily address nutrition, it still has dietary implications[37] and a motive to reduce malnutrition.[38] Walls et al. found that these mentions of nutrition in the CAP remain shallow. To better target the topic of nutritional health, they recommend the adoption of a public-health perspective to nutrition and a high-level governance support of nutritional guidelines.[39] In a study of different national laws and the old EU legislation on the specific issue of organics, Seufert et al.[40] found that the majority of organic food consumers are motivated by health concerns, and perceive organic food as healthier because they are chemical-free and have a higher nutritional value.[41] They concluded that national regulations often have a narrow focus on pesticides, and deliver only that, potentially disregarding other nutritional, but also environmental, agricultural, and economic aspects.[42] Other legal research relating to nutrition and health targets specific EU laws. For instance, Röttger-Wirtz and de Boer reviewed the current regulatory framework for personalised nutrition established by EU law, in which they included specific regulations such as the Nutrition and Health Claim Regulation,[43] the Food Information Regulation,[44] and the Special Groups Regulation.[45] When it comes to these nutrition regulations, they found that personalised nutrition, along with the data and information it relies on, operates in a grey area between health and lifestyle, i.e., consumer choice, thus indicating a blurred framework for nutrition and health in specific EU law.[46]

This prior research on health and nutrition in the EU has often focused on food policy without specif-

32 IPES-Food (n 1), 9; Olivier De Schutter, Nick Jacobs and Chantal Clément, 'A "Common Food Policy" for Europe: How Governance Reforms Can Spark a Shift to Healthy Diets and Sustainable Food Systems' (2020) 96 Food Policy 101849; Slow Food, 'The New Farm to Fork Strategy: The Key Things Every European Needs to Know' (29 May 2020) <https://www.slowfood.com/the-new-farm-to-fork-strategy-the-key-things-every-european-needs-to-know/> accessed 16 August 2020.

33 Gianluca Brunori and others, 'Creating Resilient Food Systems for Enhancing Food and Nutrition Security' (2017) EU KBBE Transmango; Line Gordon and others, 'Rewiring Food Systems to Enhance Human Health and Biosphere Stewardship' (2017) 12 Environmental Research Letters; International Panel of Experts on Sustainable Food Systems, 'The New Science of Sustainable Food Systems: Overcoming Barriers to Food Systems Reforms' (2015) Report 01; Aileen Robertson (ed), *Food and Health in Europe: A New Basis for Action* (WHO Regional Office for Europe 2004) at pp. 222-4; Monika Zurek and others, 'Assessing Sustainable Food and Nutrition Security of the EU Food System—An Integrated Approach' (2018) 10 Sustainability 4271.

34 Zurek and others (n 33).

35 SAPEA, Science Advice for Policy by European Academies, 'A Sustainable Food System for the European Union' (2020) Evidence Review Report No. 7, 95.

36 Hellen Walls and others, 'How Much Priority Is given to Nutrition and Health in the EU Common Agricultural Policy?' (2016) 59 Food Policy 12; European Commission, 'The Common Agricultural Policy at a Glance' <https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-glance_en> accessed 26 September 2023.

37 Corinna Hawkes, 'Promoting Healthy Diets and Tackling Obesity and Diet-Related Chronic Diseases: What Are the Agricultural Policy Levers?' (2007) 28 Food and Nutrition Bulletin S312.

38 Walls and others (n 36), 13; Tim Lang and Michael Heasman, *Food Wars. The Global Battle for Mouths, Minds and Markets* (Earthscan 2005).

39 Walls and others (n 36).

40 Verena Seufert, Navin Ramankutty and Tabea Mayerhofer, 'What Is This Thing Called Organic? – How Organic Farming Is Codified in Regulations' (2017) 68 Food Policy 10.

41 Ibid.

42 Ibid.

43 Regulation (EC) No 1924/2006 of the European Parliament and of the Council of 20 December 2006 on nutrition and health claims made on foods, OJ L 404/9 (Nutrition and Health Claims Regulation - NHCR).

44 Regulation (EU) No 1169/2011 of the European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers, amending Regulations (EC) No 1924/2006 and (EC) No 1925/2006 of the European Parliament and of the Council, and repealing Commission Directive 87/250/EEC, Council Directive 90/496/EEC, Commission Directive 1999/10/EC, Directive 2000/13/EC of the European Parliament and of the Council, Commission Directives 2002/67/EC and 2008/5/EC and Commission Regulation (EC) No 608/2004, OJ L 304/18 (Food Information to Consumers Regulation - FIC).

45 Regulation (EU) No 609/2013 of the European Parliament and of the Council of 12 June 2013 on food intended for infants and young children, food for special medical purposes, and total diet replacement for weight control and repealing Council Directive 92/52/EEC, Commission Directives 96/8/EC, 1999/21/EC, 2006/125/EC and 2006/141/EC, Directive 2009/39/EC of the European Parliament and of the Council and Commission Regulations (EC) No 41/2009 and (EC) No 953/2009 - SGR; Sabrina Röttger-Wirtz and Alie de Boer, 'Personalised Nutrition: The EU's Fragmented Legal Landscape and the Overlooked Implications of EU Food Law' (2021) 12 European Journal of Risk Regulation 212.

46 Röttger-Wirtz and de Boer (n 45).

ically studying the applicable EU legislation in detail. Legal research, in turn, largely focuses on isolated legal frameworks or EU laws on specific topics. This leaves a comprehensive review of EU food laws from the perspective of nutrition and health outstanding.

The EU's ability to effectively regulate health through binding laws is disputed for a number of reasons. First, health is not a clear competence in the foundational Treaties of the EU. Health matters are a shared competence between the EU and its Member States only for common safety concerns in public health matters in the cases expressly indicated in the Treaty.[47] Matters that concern the protection and improvement of human health specifically is an area where the EU has only limited—namely supportive—competence to carry out actions, coordinate, or supplement the actions of the Member States.[48] Health matters are a shared competence between the EU and its Member States. This aspect is limited to common safety concerns in public health matters, and as expressly indicated only for those aspects defined in the Treaty.[49] Matters that concern the protection and improvement of human health specifically is an area where the EU has only limited supportive competence to carry out actions, coordinate, or supplement the actions of the Member States.

Second, health is perceived as a poorly drafted objective in general EU laws,[50] and is represented by a patchwork of provisions on specific topics rather than enjoying a coherent legislative competence and legal frameworks.[51] Third, EU food law was largely created as a result of the 2000 White Paper on Food Safety. By consequence, health (and nutrition) in food were therefore largely phrased as an element of food safety.

This article analyses how well nutrition and health objectives are anchored in the current EU food regulatory framework and explores the potential value-added of the F2F Strategy when it comes to the regulation of health and/or nutrition. In order to examine the potential of the F2F policy, one has to clarify the state of the art of nutrition and health in food law. In other words, how does the EU food legal framework *currently* cover nutrition and health aspects? In order to provide an answer to this question, we first conduct a systematic review of EU food legislation in Section 2. We screened existing food law for definitions and indicators of *health* and *nutrition* to clarify their relationship to one another and their role in legislation through (i) identifying legislative instruments relating to EU food law which include specific *health* and *nutrition* indicators, (ii) reviewing the legislative objectives targeted by these indicators from a contribution to the preservation of human health perspective, and (iii) analysing the strengths and weaknesses of current EU requirements for the preservation of human health through nutrition. Section 3 describes our results and analyses the implications of the findings, particularly in light of the F2F Strategy.

3. Methodology

The goal of this research is, in the first instance, to understand the prevalence of nutrition and health considerations in EU food law. Previous research on nutrition and health in food system governance has often looked at food policy, while paying less attention to specific legal frameworks.

In this article, we understand policy as the formulated intentions of a political body, especially the European Commission in the case of the EU. These policy strategies provide blueprints for legislative proposals, but do not necessarily reflect the final outcomes. Mandatory policy plans must first be translated into legislative proposals by the European Commission, after which they enter the law-making process between the European Parliament and European Council. This process culminates in the adoption of a final, binding legal text. Therefore, while EU policy shapes future law, it is the legislation itself, born from a separate political process, that holds true power. As these laws shape the normative framework for actions, analysing the body of food law and its applicable legislative texts provides a more accurate perspective on the actual realisation of policy goals.

To identify EU food legislation on health and nutrition, we searched the Eur-Lex database for regulations and directives containing the keywords 'food'

47 Article 4, Treaty on the Functioning of the European Union.

48 Article 6(a), Treaty on the Functioning of the European Union.

49 Article 4, Treaty on the Functioning of the European Union.

50 Antionio Tognoni, 'Health in EU Legislation: An Actual or Conditional Priority?' (2017) 27 European Journal of Public Health 244.

51 Hervey, T. and Vanhercke, B., 'Health Care and the EU: The Law and Policy Patchwork', *in E. Mossialos, G. Permanand, R. Baeten and T. Hervey (eds.) Health Systems Governance in Europe: The Role of EU Law and Policy* (Cambridge University Press 2010), 85.

AND 'health*' OR 'nutrition*.' We limited the results to in-force regulations and directives (including Council and Commission regulations and directives), and manually screened the results for relevance. We excluded acts targeting claims, maximum levels of specific substances, maximum residue levels of specific pesticides, the usage and levels of vitamins and minerals, monitoring of transmissible spongiform encephalopathies, amending acts, references to animal health and animal feed, and other miscellaneous ones. This resulted in 74 regulations and 45 directives. We then conducted a manual review of the selected legislation for mentions of health and nutrition that either directly and clearly define the two words, shape or give general or partial definitions for the two words, or dictate certain behaviours that are either favourable or unfavourable to the two concepts. We extracted all relevant provisions in these instruments and placed them in a comparative spreadsheet for analysis. Of these, 13 regulations and three directives are pertinent to the health and nutrition frameworks, and results from these are reported in our review.

4. Limitations

This article focuses on EU policy and law, and therefore regional initiatives[52] and national initiatives are not covered. In terms of the sources of law considered, we only look at EU food legislation, and not legislation passed in the context of the Common Agricultural Policy (CAP). The article does not address case law reflecting the Court of Justice of the European Union's (CJEU's) judgments on health and nutrition indicators in the EU Treaties or in legislation.

Despite these limitations, the review provides valuable insights into the current state of EU food law and its potential to address health and nutrition concerns.

II. Health and Nutrition in EU Legislation: A Review

Our review resulted in 13 regulations and three directives that have health and nutrition objectives and references that are pertinent to our research questions. This section inventories the pieces of food legislation dealing with health and nutrition, and analyses them with respect to stated objectives, principles, and requirements.

1. General Food Law Regulation (GFL)

The GFL lays the foundation of all current food law; it is an overarching law—a so-called umbrella legislation—dating from 2002 that addresses all food legislation. It sets out general food law principles and specific food safety requirements, provides the statutes for European Food Safety Authority (EFSA) and creates food emergency and crisis procedures.

Health is enshrined in the GFL as a fundamental *objective* of food law, and it is a major component of GFL definitions, principles, requirements, and EFSA procedures.

GFL definitions reference the concept of health. While there is no clear definition of health, the word is a main component of the definitions for *risk* and *hazard*. *Risk* is defined as 'the probability of an adverse *health* effect and the severity of that effect, consequential to a hazard.'[53] The GFL addresses risk in the Preamble (17) statement that food law shall be aimed at the reduction, elimination, or avoidance of a risk to health. *Hazard* is defined as 'a biological, chemical or physical agent in, or condition of, food or feed with the potential to cause an adverse *health* effect.'[54]

The GFL principles underline the objective of a high level of protection of health, and how the GFL aims to attain it: 'food law shall pursue one or more of the general objectives of a high level of protection of human life and health and the protection of consumers' interests, including fair practices in food trade [...].'[55] Food law is further based on the principle of risk analysis (to avoid 'adverse health effects')[56] and the precautionary principle[57] to act in case the possibility of harmful effects on health is identified but scientific uncertainty persists. The principle of consumer protection[58] does not mention health, but

52 Breda and others (n 25).

53 Article 3(9), GFL.

54 Article 3(14), GFL.

55 Article 5(1), GFL.

56 Article 6, GFL.

57 Article 7, GFL.

58 Article 8, GFL.

protects consumers from fraudulent and deceptive practices, food adulteration, or other misleading practices.

The GFL general requirements put safety at the core of food law: 'food shall not be placed on the market if it is unsafe.'[59] It also associates health with safety: 'food shall be deemed to be unsafe if it is considered to be: (a) injurious to health.'[60] Whether a food is injurious to health is determined by the (a) probable immediate and/or short-term and/or long-term effects of food on the health of a person consuming it, but also on subsequent generations; (b) probable cumulative toxic effects; and (c) particular health sensitivities of a specific category of (intended) consumers.[61]

The GFL establishes EFSA,[62] whose core objective is to contribute to a high level of protection of human life and health and its core mission is to provide scientific advice and technical support relating to matters of human nutrition.[63] It monitors the *health and nutritional risks* of foods with the assistance of a rapid alert system.[64]

The GFL presents health as a factor of risk and unsafety. First, under the risk-based approach, the definition of risk is an adverse health effect consequential to a biological, chemical, or physical hazard. The GFL thus associates health with negative effects caused by hazards rather than describing it as a standalone concept. The risk-based approach enshrines health as a derivative of safety hazards.

Second, the GFL's unsafety approach is defined by 'injuriousness to health'. In common interpretation, this provision generally focuses on acute health risks in the sense of hazards and is not used to target unhealthy food. However, a textual reading of the provision shows the potential to phrase nutrition as a factor of food unsafety. The provision clearly states that food is injurious to health if it has probable negative immediate, short-term, or long-term effects on health. This suggests that nutrition could be phrased as a part of food safety.

Health in the GFL remains a negative concept, defined by adverse health effects and injuriousness to health. A positive conception of health in relation to food is absent. Other than that, there appear to be no direct references to nutrition in the GFL other than in EFSA's risk assessment mission. The GFL has a lot of potential to strengthen the safety, nutrition, and health nexus.

2. Food Information Instruments

The main EU food laws on information are the Food Information to Consumers Regulation (FIC), and the Nutrition and Health Claims Regulation (NHCR).

a. Food Information to Consumers Regulation (FIC)

The FIC establishes the EU rules on food information to consumers and, in particular, food labelling.[65] It aims to ensure a high level of consumer protection and a high level of protection of consumers' health. To do this, it first allows consumers 'to make informed choices'[66], for instance by requiring mandatory information on nutritional characteristics.[67] The FIC requires food labels to include a nutrition declaration, indicating, e.g., the energy value, fat, saturated fat, carbohydrates, sugars, protein, and salt content. Second, it allows consumers to 'make safe use of food, with particular regard to health, economic, environmental, social and ethical considerations'.[68] 'Safe use' considers, among others, the compositional attributes that may be harmful for certain groups, and the health impact, including the risks and consequences, related to harmful and hazardous consumption of a food.[69] The Regulation therefore sets additional mandatory particulars for special foods, for instance foods with sweeteners or added/high caffeine.[70] Food information must not mislead consumers and be accurate, clear and easy to understand.[71] Measures which are likely to influence public health shall be adopted after consultation with EFSA.[72]

59 Article 14(1), GFL.
60 Article 14(2), GFL.
61 Article 14(4), GFL.
62 Article 22, GFL.
63 Article 22(5)(a), GFL.
64 Article 35, GFL.
65 Article 1, FIC.
66 Article 3, FIC.
67 Articles 4(1)(c) and 9(1)(l), FIC.
68 Article 3, FIC.
69 Article 4(1)(b), FIC.
70 Article 10(2), FIC.
71 Article 7, FIC.
72 Article 5, FIC.

b. Nutrition and Health Claims Regulation (NHCR)

The NHCR regulates nutrition and health claims to ensure the functioning of the internal market while providing a high level of consumer protection.[73] Nutrition claims are claims about particular nutritional properties of a food, based on its energy, nutrients, and substances profile.[74] Health claims, by contrast, state, suggest or imply a relationship between food and health.[75] Permissible nutrition claims are listed in the Annex of the Regulation and can be made on any product complying with the conditions set out. Health claims must be authorised. The NHCR sets requirements for claims, for instance, their scientific substantiation.

The FIC and the NHCR are two key pieces of EU food law that regulate the provision of food information to consumers. In relation to health and nutrition, the FIC largely ensures the availability of specific information, namely the mandatory nutrition declaration and mandatory particulars for specific food substances that have a harmful impact on health. The underlying assumption is that consumers read the information provided on the label, thus enabling them to make healthy food choices and adapt their diets to their personal wishes. The Regulation recognises that there is insufficient evidence on how food information is processed by consumers and what its impacts are.[76] One remedy to improve food information processing by consumers is the permission to establish additional forms of expression and presentation for the nutrition declaration.[77] These can be front-of-pack labelling schemes, a main example of which is Nutri-Score. The NHCR standardises under which conditions nutrition and health claims can be made, sets specific textual wordings to be used, and ensures that all claims are scientifically certified. The main approach here is information standardisation and validity.

The EU food information laws are not acting as 'steering' instruments that aim to direct consumers to healthier eating behaviour. The food information governance approach exhibited by the FIC and the NHCR targets information availability, standardisation to enhance objectivity and comparability, processability and scientific validity. With the exception of mandatory food information for substances having a harmful impact, to date, EU food information governance largely does not engage in normative interpretation and evaluation about the food choices—food law understands itself as a neutral knowledge broker.

3. Food Improvement Instruments

a. Food Additives Regulation (FAR), Food Enzymes Regulation (FER) and Food Flavourings Regulation (FFR)

The FAR,[78] FER[79] and FFR[80] set out the criteria by which food additives, enzymes, and flavourings are assessed and approved for safe use in the EU. Additives, enzymes and flavourings should follow the common authorisation procedure set by Regulation (EC) No 1331/2008.[81]

The regulations aim to ensure the effective functioning of the internal market and a high level of human health and consumer protection.[82] Food additives and enzymes have technological purposes.[83] They can be used if they do not pose safety concerns to consumers' health on the basis of available scientific evidence, if there is a reasonable technological need for them, and if they do not mislead consumers.[84] A food flavouring imparts odour and/or

73 Article 1(1), NHCR.

74 Article 2(4), NHCR.

75 Article 2(5), NHCR.

76 Article 53, FIC.

77 Preamble (43), FIC.

78 Regulation (EC) No 1333/2008 of the European Parliament and of the Council of 16 December 2008 on food additives OJ L 354/67 (Food Additives Regulation - FAR).

79 Regulation (EC) No 1332/2008 of the European Parliament and of the Council of 16 December 2008 on food enzymes and amending Council Directive 83/417/EEC, Council Regulation (EC) No 1493/1999, Directive 2000/13/EC, Council Directive 2001/112/EC and Regulation (EC) No 258/97, OJ 2008 L 354/7 (Food Enzymes Regulation - FER).

80 Regulation (EC) No 1334/2008 of the European Parliament and of the Council of 16 December 2008 on flavourings and certain food ingredients with flavouring properties for use in and on foods and amending Council Regulation (EEC) No 1601/91, Regulations (EC) No 2232/96 and (EC) No 110/2008 and Directive 2000/13/EC, OJ 2008 L 354/34 (FFR).

81 Article 1(2) Regulation (EC) No 1331/2008 of the European Parliament and of the Council of 16 December 2008 establishing a common authorisation procedure for food additives, food enzymes and food flavourings, OJ 2008 L354/1.

82 Article 1 FAR, Article 1 FER, and Article 1 FFR.

83 Article 3(2)(a) FAR and Article 3(2)(a) FER.

84 Article 6, FAR and Article 6, FER.

taste,[85] and must not pose a risk to consumers' health based on available scientific evidence.[86]

The FAR, FER and FFR have a number of provisions related to nutrition. A product's use must not mislead consumers, namely regarding the nature, freshness and quality of the ingredients used, the naturalness of a product or of the production process, or the nutritional quality of the product.[87] Also, the usage of additives and enzymes must preserve the nutritional quality of the food[88] (specifically, concerning additives, for groups with special dietary needs.[89] Finally, scientific evidence is placed at the core of safety assessments for additives[90] and enzymes.[91] The enzymes framework does not apply to enzymes not added for a technological function but that 'are intended for human consumption, such as enzymes for nutritional or digestive purposes.'[92]

b. Smoke Flavourings Regulation (SFR)

The SFR[93] lays down the rules by which smoke flavourings are assessed and can be used, to ensure a high level of human health and consumer protection.[94] A safety assessment is required before gaining market access,[95] and immediate assessment, followed by removal from the market if necessary, is required when a serious risk to human health is detected based on scientific evidence.[96] Although the Regulation does not describe in detail the smoking process, it still pinpoints the major steps and associated safety concerns,[97] and imposes applications for authorisation[98] and pre-requisite safety assessments undertaken by EFSA.[99]

Overall, the food improvement instruments exhibit a classic concern for food safety— a health dimension inherent in most of EU food law; it follows the risk analysis processes and imposes a rather strict ex-ante control of which substances may be used in EU food. The nutritional purpose of food improvement agents is rather explicitly excluded.

4. Added Substances and Food Supplements

a. Vitamin and Minerals Regulation (VMR)

The VMR[100] intended to harmonise the addition of vitamins, minerals, and other substances to foods, to ensure the internal market functions effectively and to protect consumers.[101] The Regulation specifies which vitamins and minerals may be added to food[102] and under which conditions; it further stipulates substances whose use in food is prohibited.[103]

The Regulation's preambles state that under normal circumstances, an adequate and varied diet that follows dietary recommendations provides all necessary nutrients for maintenance of health.[104] Nevertheless, authorised vitamins and minerals can be added to foods specifically to take account of a deficiency in the population, the potential to improve the nutritional status, and evolving scientific knowledge on the role of these vitamins and minerals and their effects on health.[105]

Health and nutrition benefit claims cannot be made on such products, and the addition of vitamins and minerals is not allowed in fresh foods in order not to confuse consumers as to their natural nutritional value.[106] An important element of the Regulation was the intention to set limits for maximum added

85 Article 3(2)(a), FFR.

86 Article 4(1), FFR.

87 Preamble (7) and Article 6, FAR; Preamble (6) and Article 6, FER; and Preamble (7) and Article 4(b), FFR.

88 Article 6(2)(a), FAR and Article 6(c), FER.

89 Article 6(2)(b), FAR.

90 Article 26(1), FAR.

91 Article 14(1), FER.

92 Recital (4), FER.

93 Regulation (EC) No 2065/2003 of the European Parliament and of the Council of 10 November 2003 on smoke flavourings used or intended for use in or on foods, OJ 2003 L 309/1 - Smoke Flavourings Regulation.

94 Article 1, SFR.

95 Article 3(1), SFR.

96 Article 9(5), SFR.

97 Article 5, SFR.

98 Article 7, SFR.

99 Article 8, SFR.

100 Regulation (EC) No 1925/2006 of the European Parliament and of the Council of 20 December 2006 on the addition of vitamins and minerals and of certain other substances to foods, OJ 2006 L 404/26.

101 Article 1(1), VMR.

102 Annexes I and II, VMR.

103 Annex III, VMR.

104 Preamble (7), VMR.

105 Article 3, VMR.

106 Preamble (12) and Article 4, VMR.

amounts to avoid undesirable health effects in enriched foods and guarantee consumer safety.[107] These would be set on the basis of scientific upper safe levels and take into account intakes from other dietary sources. Agreement on this could not be reached, and the Regulation therefore remains incomplete.

The Trans-Fat (Implementing) Regulation (TFR)[108] is an amending regulation to the VMR which added trans-fatty acids to the list of restricted substances under Part B of Annex III to the VMR[109] and restricted the amount to a maximum 2 grams per 100 grams for trans-fat not naturally occurring in foods from animal origin.[110]

The VMR is committed to nutritional objectives. The fact that health and nutrition benefit claims cannot be made on enriched foods is an important indicator that the VMR does not intend for enrichment to be a substitute for a healthy diet, but rather to address specific population deficiencies or improve the nutritional value of certain foods.

The Regulation determines which substances and flavours may be added to food from a health-food safety point of view. The determination of amounts of vitamins and minerals should be based on nutritional assumptions but remains confined to the logic of preventing unsafe (and therefore unhealthy) amounts of vitamins, minerals and other substances in food.

The VMR is incompletely harmonised when it comes to food fortification.[111] This shows the difficulty of reaching political consensus on nutrition and health, and results in a fragmented regulatory landscape at Member State level. Nevertheless, surveys show that when it comes to certain vitamin and mineral requirements, many are not met by all consumer groups.[112] The potential of the VMR to contribute to the food and nutrition nexus is therefore underused.

A new approach has, however, emerged in the context of trans-fats. Trans-fats occur naturally in food from animal origin, which are exempt in the regulation, or result from added partially hydrogenated vegetable oils (PHOs).[113] Already in 2009, EFSA found that a nutritionally adequate diet should have the lowest possible levels of trans-fatty acids,[114] as it increases the risk of heart disease, which was reported as the leading cause of death in the Union.[115] While measures had been taken regarding the provision of information to consumers in the framework of the FIC,[116] establishing a legal limit for trans-fat in industrial production in the VMR was regarded as the most effective measure to protect human health.[117] The TFR is remarkably stringent in pursuing a regulatory nutritional health approach: it identifies a health problem based on scientific evidence and NCD data; it sets binding quantitative limits on the substance; it involves the whole food chain; and it requires immediate implementation on a Union level.[118] The TFR could therefore be regarded as a pioneer regulation that shows a future direction, for instance on salt or sugar, and more widely as an opportunity to address nutritional health.

b. Food Supplements Directive (FSD)

The FSD[119] lays down the rules for marketing food supplements as foodstuffs within the EU.[120] The Regulation's preambles state that under normal circumstances an adequate and varied diet that follows dietary recommendations provides all necessary nutrients for maintenance of health, and that supplements should be used when dietary requirements are not met.[121] The FSD defines food supplements as nutrient (vitamins or minerals) provided in concentrated form such as capsules, pastilles, tablets, pills, sachets,

---

107 Preamble (14) and Article 6, VMR.

108 Commission Regulation (EU) 2019/649 of 24 April 2019 amending Annex III to Regulation (EC) No 1925/2006 of the European Parliament and of the Council as regards trans-fat, other than trans-fat naturally occurring in fat of animal origin, OJ 2019 L 110/17 - Trans-Fat Regulation.

109 Article 3, TFR.

110 Article 1, TFR.

111 European Commission, 'Addition of Vitamins and Minerals' <https://food.ec.europa.eu/safety/labelling-and-nutrition/addition-vitamins-and-minerals_en#:~:text=Regulation%20(EC)%20No%201925%2F,high%20level%20of%20consumer%20protection.> accessed 31 October 2023.

112 Preambles (7) and (8), VMR.

113 Tedros Adhanom Ghbreyesus, 'A Recipe for Good Health: Banish Trans Fat to History's Dust Bin and Offer People Healthy Options' (*WHO*, 2023) <https://www.who.int/news-room/commentaries/detail/a-recipe-for-good-health--banish-trans-fat-to-history-s-dust-bin-and-offer-people-healthy-options#:~:text=Most%20trans%20fat%20comes%20from,shelf%20life%20of%20processed%20food.> accessed 31 October 2023.

114 Preamble (2), TFR.

115 Preamble (3), TFR.

116 Article 30(7), FIC.

117 Preamble (4), TFR.

118 Article 4, TFR.

119 Directive 2002/46/EC of the European Parliament and of the Council of 10 June 2002 on the approximation of the laws of the Member States relating to food supplements, OJ 2002 L 183/51 (Food Supplements Directive - FSD).

120 Article 3, FSD.

121 Preamble (12), FSD.

and other similar forms.[122] Under the Directive, the Commission never managed to set minimum and maximum levels.

The FSD uses the risk analysis processes established under general EU food law, with EFSA as a risk assessor. However, the nutritional aspects were never resolved, and it therefore constitutes another incomplete legal framework.

5. Special Groups Regulation (SGR)

The SGR establishes requirements for food intended for infants and young children, food for special medical purposes and total diet replacement for weight control.[123] It addresses nutritional requirements by laying down compositional and information requirements for products intended for targeted consumers, aiming to: satisfy their nutritional requirements; limit substances in such quantities as to endanger their health; ensure that substances added to fulfil nutritional requirements are bio-available for use by the human body, have a nutritional or physiological effect and are suitable; and provide truthful, appropriate and non-misleading labelling, presentation and advertising of these foods.[124]

The SGR directly mandates the nutritional quality of the specific food products with the aim of supporting special consumer groups and uses. The legal framework does set minimum and maximum amounts of nutrients, which have not been agreed on under the general approach legal instruments. This is an exhaustive compositional regulatory approach to food, which is only taken for very select groups (infants and young children) and uses.

6. Food Technology Instruments

a. GMO Regulation (GMOR)

The GMOR[125] provides a basis for ensuring a high level of protection of human life and lays down requirements for the authorisation, supervision, and labelling of genetically modified food.[126] Targeted foods must not have adverse effects on human health, must not mislead consumers, and must not differ from the food which it is intended to replace to such an extent that its normal consumption would be nutritionally disadvantageous for consumers.[127] Safety and risk assessment is required before placing a product on the market.[128]

b. Novel Foods Regulation (NFR)

The NFR[129] lays down rules for the placing of novel foods on the EU market and ensures a high level of human health and consumer interest protection.[130] Novel foods are only authorised if they do not pose a safety risk to human health, based on available scientific evidence.[131] From a nutrition perspective, the novel food should not mislead consumers when it is intended to replace another food, especially when there is a significant change in the nutritional value.[132] Also, the novel food may not differ from that food in such a way that its normal consumption would be nutritionally disadvantageous for consumers.[133]

c. Other Food Technology Instruments

The Ionising Radiation Directive[134] tackles requirements for foods and food ingredients treated with ionising radiation.[135] The Directive requires scientific input in questions relating to public health,[136] and suspension or restriction of such techniques if they constitute a health risk.[137]

122 Article 2(a), FSD.

123 Article 1(1), SGR.

124 Article 9, SGR.

125 Regulation (EC) No 1829/2003 of the European Parliament and of the Council of 22 September 2003 on genetically modified food and feed, OJ 2003 L 268/1 (GMOR Regulation).

126 Article 1, GMOR.

127 Article 4(1), GMOR.

128 Preamble (3) and Articles 5(5)(a) and 6(3), GMOR.

129 Regulation (EU) 2015/2283 of the European Parliament and of the Council of 25 November 2015 on novel foods, amending Regulation (EU) No 1169/2011 of the European Parliament and of the Council and repealing Regulation (EC) No 258/97 of the European Parliament and of the Council and Commission Regulation (EC) No 1852/2001, OJ L 327/1 - NFR.

130 Article 1, NFR.

131 Articles 7(a), 10(2)(e) and 11(2)(b), NFR.

132 Article 7(b), NFR.

133 Articles 7(c) and 11(2)(c), NFR.

134 Directive 1999/2/EC of the European Parliament and of the Council of 22 February 1999 on the approximation of the laws of the Member States concerning foods and food ingredients treated with ionising radiation, OJ 1999 L 66/16 - IRD.

135 Article 1, IRD.

136 Preamble (12) and Article 4, IRD.

137 Preamble (16), IRD.

The Extraction Solvents Directive[138] tackles requirements for extraction solvents used in the production of foodstuffs and food ingredients.[139] The Directive requires that residue levels of extraction solvents are not dangerous to human health,[140] scientific input in questions relating to public health,[141] and suspension or restriction of such techniques if they constitute a health risk.[142]

Legislative instruments relating to food technology follow a risk analysis approach and therefore consider human health based on health risks. They ensure that targeted foods are only placed on the market after they have been thoroughly assessed and authorised (GMOR and NFR) or removed from the market if health risks are discovered. All these frameworks are based on the general EU risk analysis approach.

7. Organic Production Regulation (OPR)

The OPR[143] lays down the principles of organic production and its certification, labelling and advertising rules.[144] It aims to observe high standards for health through a high quality of organic products[145] and presents specific principles applicable to the processing of organic food. Namely, there are restrictions on food additives, non-organic ingredients and micronutrients and processing aids, and the usage of authorised components and methods is to be restricted to a minimum extent and only in cases of essential technological need or for particular nutritional purposes.[146] The Regulation excludes substances and processing methods that might be misleading as regards the true nature of the product.[147]

The OPR largely focuses on the reduction of chemical inputs with some attention to holistic organic production methods. While organic food is often expected to be healthier, this is not specifically warranted by the legal requirements with the exception of the health-safety improvements ensured by the reduction of chemical inputs. From a nutritional perspective, studies have shown that organic foods generally tend to be less processed and healthier than non-organic ones, as they contain fewer ingredients linked to NCDs,[148] but there remains scientific uncertainty regarding the effects of organic diets on human health,[149] the reduced antibiotic and pesticide usage advantages versus nutritional advantages,[150] and the potential advantages of organic versus non-organic processed foods.[151] Overall, the OPR thus fails to lay a strong link between nutrition, health and organic production.

III. Findings and Recommendations

1. Discussion of the Findings

Our overall finding confirms that current EU food legislation is largely oriented towards risk and food safety,[152] and that food law is largely characterised by the absence of a positive articulation of the relationship of food to health.

The main legal instrument in food law is the General Food Law Regulation. Other secondary food law

138 Directive 2009/32/EC of the European Parliament and of the Council of 23 April 2009 on the approximation of the laws of the Member States on extraction solvents used in the production of foodstuffs and food ingredients (Recast), OJ 2009 L 141/3 - ESD.

139 Article 1, ESD.

140 Article 1(1), ESD.

141 Article 4(a), ESD.

142 Preambles (11) and (15) and Article 5, ESD.

143 Regulation (EU) 2018/848 of the European Parliament and of the Council of 30 May 2018 on organic production and labelling of organic products and repealing Council Regulation (EC) No 834/2007, OJ 2018 L 150/1.

144 Article 1, OPR.

145 Preamble (2), OPR.

146 Article 7(b), OPR.

147 Article 7(c), OPR.

148 Vanessa Vigar and others, 'A Systematic Review of Organic Versus Conventional Food Consumption: Is There a Measurable Benefit on Human Health?' (2019) 12 Nutrients; Julia Baudry and others, 'Association of Frequency of Organic Food Consumption With Cancer Risk' (2018) 178 JAMA Internal Med 1597; Aurora Dawn Meadows and others, 'Packaged Foods Labeled as Organic Have a More Healthful Profile Than Their Conventional Counterparts, According to Analysis of Products Sold in the U.S. in 2019–2020' (2021) 13 Nutrients 3020.

149 Marcin Barański and others, 'Effects of Organic Food Consumption on Human Health; the Jury Is Still Out!' (2017) 61 Food & Nutrition Research; Vigar and others (n 148).

150 Axel Mie and others, 'Human Health Implications of Organic Food and Organic Agriculture: A Comprehensive Review' (2017) 16 Environmental Health.

151 Meadows and others (n 148).

152 Caoimhín MacMaoláin, *EU Food Law: Protecting Consumers and Health in a Common Market* (Hart 2007) at pp. 223-4; Wieke Huizing Edinger, 'Food, Safety and the Behavioural Factor of Risk' (2017) 5 European Journal of Risk Regulation 491, p. 491; Wieke Huizing Edinger, 'Food Health Law: A Legal Perspective on EU Competence to Regulate the "Healthiness" of Food' (2014) 9 European Food and Feed Law Review 11.

instruments can be classified into food safety instruments, food information instruments, instruments that deal with nutrition and health more narrowly, and food production instruments.

The food safety instruments conceptualise health as a minimalisation of risk. The GFL, the food improvement instruments (FAR, FER, FFR and SFR), and the food technology instruments (GMOR, NFR, IRD and ESD) fall into this category of safety legislation. The food information instruments, such as the FIC and the NHCR, address health and nutrition through information governance tools. Only a few instruments regulate nutritional aspects of food directly; examples are the VMR and the TFR as an amending regulation to it, the SGR, and the FSD. The OPR is a food production instrument that defines organic production in the EU but that is not expressly linked to nutritional health concerns.

Food legislation on the health-food safety nexus therefore perpetuates a largely negative approach to food and health, whereby the EU regulates with a goal of avoiding (direct) negative health consequences (section o). The health-nutrition nexus, by contrast, is addressed through informational requirements by providing the necessary information to consumers to make health choices (section p), and in some select cases directly through compositional requirements for specifically vulnerable target groups, notably infants and children (section q).

a. The GFL creates a risk and safety-oriented framework for health: Does this leave room for a holistic health and nutrition-oriented framework?

The General Food Law Regulation, as the umbrella food law instrument, is specifically important in defining the orientation of the field. In it, health was shown to be a polyvalent term used in reference to various 'negative' dimensions, notably risk, hazard, and unsafety as general requirements of the GFL, whereas nutrition is only referred to as part of EFSA's mission.

The GFL underlines a strong but specific association between health and safety in the GFL. On the one hand, it is rooted in the concept of risk. Risk is the probability of an adverse health effect consequential to a hazard; hazard is a biological, chemical, or physical agent with the potential to cause an adverse *health* effect. On the other hand, it stems from the concept of unsafety. Food should not be unsafe; food is unsafe if it is injurious to health; food is injurious to health if it has probable negative immediate, short-term, long-term, toxic, or sensitivity effects on health.

The GFL's approach to the nutritional dimension of food is separate from its safety approach. Nutrition is not developed under GFL general requirements or definitions; the law only addresses nutrition through EFSA's institutional mission to provide scientific advice and technical support on matters of human nutrition to the Commission. As a result, the GFL's approach to health is incomplete and lacks a framework for nutrition. In this, the GFL fails to bridge between the safety paradigm and nutrition as an EFSA mission. There are legal ways to overcome the nutrition and health gap in the GFL.

First, some bridging can be undertaken through an interpretation of the GFL's key concepts of unsafety and risk—these references could be interpreted to cover the negative health effects of unhealthy food that is nutritionally disadvantageous and consider unhealthy food as injurious to health or as a (nutritional) hazard. For instance, the Article 14 umbrella prohibition to place unsafe foods on the market is currently not typically analysed in terms of nutritional health risks such as obesity. There is, however, potential to expand the interpretation of this provision and include nutritional health risks.

Second, a fundamental realignment of the GFL with health and nutrition would necessitate a redrafting of the provisions, either by reigniting the forgotten notion of 'wholesomeness' or by enshrining nutrition and health as self-standing fundamental goals. The original *Green Paper on the General Principles of Food Law in the European Union* had proposed a double-pronged safety and wholesomeness paradigm, which was then abandoned—in current EU food law, wholesomeness is not mentioned in any legislative provision. Nevertheless, our research found that many laws refer to wholesome food in the preambles: '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 to their social and economic interests.'[153] Wholesomeness has an

153 Cited in: Preambles (1) and (23), GFL; Preamble (2), FIC; Preamble (1), FAR; Preamble (1), FER; Preamble (4), FFR; Regulation (EC) No 1331/2008; Preamble (2), SFR; Preamble (1), Regulation (EU) No 609/2013; Preamble (1), GMOR; and Preamble (1), NFR.

implied dimension of health and well-being more widely and can be understood to contain a nutrition dimension. A different option would be to include health and nutrition as self-standing and more literal goals.

The advantage of these options is that the GFL would, first, more clearly address the objective to protect human health from all angles and create a stronger nutrition and health mission for all EU food law. Second, this would enhance the coherency between the GFL's legislative general requirements and EFSA's nutritional mission. Finally, this would indicate a direct legislative responsibilisation of the food industry regarding nutrition and its related health impacts, in line with the GFL provision that business operators are responsible for compliance with food safety requirements to achieve a high level of health protection.[154]

b. Information regulations: information only, interpretative or directive?

The food safety approach is flanked by two strong information governance frameworks, namely the FIC and NHCR. The laws secure food information availability, standardisation of food information to enhance objectivity and comparability, information processability and scientific validity.

Although studies have demonstrated some impacts of food information labelling on food choices,[155] the information governance approach to translating better food information into healthier diets has been challenged. For example, a study found that less than a quarter of consumers read food information while shopping, and of those who do, only a few are able to select the relevant information relating to a product's healthiness.[156] Additionally, consumers often confuse nutrition claims and health claims, and they interpret them based on their own established beliefs.[157] This raises the need to explore alternative or complementary initiatives beyond the traditional approach of mere information provision.

Information provision can be undertaken on a fact-based approach or an interpretative information-based approach. The FIC favours a fact-based, 'neutral' approach to food information. It focuses on providing consumers with accurate information about the nutrients in food, such as calories, fat, protein, and carbohydrates, without making any claims about the effects of those nutrients on health.

The NHCR combines a fact-based with more interpretative information provision—for example, 'high in protein' or 'low in fat'; in addition, health claims are scientifically validated relationships between a food and health, such as 'lowers blood cholesterol'. While these approaches are interpretative, they are not as directive as other ways of providing information, for instance warning labels or positive recommendations to consume foods.

Existing nutrition schemes work in a more directive way, for instance in the form of a nutri-score type label that interprets food information for consumers and provides a normative indicator about their health attributes. While the positive effects ensuing from a directional approach to nutrition are debatable,[158] there are discussions on the subject[159] as

154 Article 19(1), GFL.

155 Swen J Kühne and others, 'Labels Affect Food Choices, but in What Ways?' (2022) 14 Nutrients; Zenobia Talati and others, 'The Impact of Interpretive and Reductive Front-of-Pack Labels on Food Choice and Willingness to Pay' (2017) 14 International Journal of Behavioral Nutrition and Physical Activity; Muhammad Zeeshan Zafar and others, 'The Impact of Interpretive Packaged Food Labels on Consumer Purchase Intention: The Comparative Analysis of Efficacy and Inefficiency of Food Labels' (2022) 19 International Journal of Environmental Research and Public Health; Cliona Ni Mhurchu and others, 'Do Nutrition Labels Influence Healthier Food Choices? Analysis of Label Viewing Behaviour and Subsequent Food Purchases in a Labelling Intervention Trial' (2018) 121 Appetite 360.

156 TNS European Behaviour Studies Consortium, 'Study on the Impact of Food Information on Consumers' Decision Making' (2014), 209.

157 Charo E Hodgkins and others, 'Understanding How Consumers Categorise Health Related Claims on Foods: A Consumer-Derived Typology of Health-Related Claims' (2019) 11 Nutrients 539; Tony Benson and others, 'Are the Claims to Blame? A Qualitative Study to Understand the Effects of Nutrition and Health Claims on Perceptions and Consumption of Food' (2019) 11 Nutrients 2058.

158 foodnavigator.com, 'Food Labelling Has a Significant Impact on Consumer Decision-Making' (*foodnavigator.com*, 13 October 2022) <https://www.foodnavigator.com/Article/2022/10/13/food-labelling-has-a-significant-impact-on-consumer-decision-making> accessed 7 September 2023; EunSol Her and Soobin Seo, 'Health Halo Effects in Sequential Food Consumption: The Moderating Roles of Health-Consciousness and Attribute Framing' (2017) 62 International Journal of Hospitality Management 1; blog l'Equipe de Recherche en Epidémiologie Nutritionelle (EREN), 'Why Nutri-Score is computed on the basis of 100g of food and not per serving (as requested by manufacturers)?'; Hercberg S, Touvier M and Salas-Salvado J, 'The Nutri-Score Nutrition Label' (2022) 92 International journal for vitamin and nutrition research. Internationale Zeitschrift fur Vitamin- und Ernahrungsforschung. Journal international de vitaminologie et de nutrition.

159 European Parliament, 'Harmonised and Mandatory Nutrition Labelling in the EU' (2023) <https://www.europarl.europa.eu/doceo/document/P-9-2023-000783_EN.html> accessed 31 October 2023.

these are at the moment not mandated in the legal framework.

To conclude, EU food information governance is largely fact-based, with some interpretative information elements; a directional approach to health and nutrition information in EU food law is largely missing.

c. A budding approach to compositional regulation for health and nutrition purposes: A new way forward?

The main alternative to an information governance approach is a regulatory approach, which mandates the food product requirements instead of merely providing information.

Compositional requirements set mandatory rules about the levels of specific nutrients or other substances in food. EU food law grants 'nutritional protection' to select groups and for specific purposes ('selective approach'). While most reviewed regulations target the general consumer, compositional requirements and other particular attentions are developed for specific groups. For example, the SGR develops a full-fledged compositional approach for some selected food products and uses.

A striking exception to this is the VMR, which sets general mandatory limits on trans-fats in food. They are different from food improvement instruments such as the FAR, FER, FFR or SFR, which set limits on the use of specific additives, enzymes, and flavourings in food. Additives are not naturally occurring in food, but are added to improve its flavour, texture, appearance, or for preservation. They are addressed as hazardous additions to be limited, while compositional requirements are more nutrition oriented.

The trans-fats regulation may constitute a turning point from a nutrition regulatory perspective, as it requires food manufacturers to reduce a general category of substances for all consumers due to nutrition and health concerns. While we have found no current data on how the TFR impacted changes in consumption, studies pre-dating the regulation regarded a legislative limit as the most effective option.[160] One may therefore wonder whether the TFR marks the beginning of a next-generation compositional-requirements approach, which could extend to sugar, salt, and other substances.

There are a number of reasons why regulatory compositional requirements would contribute to nutrition and health components of food. First, they are a more effective way to improve the nutritional quality of food than voluntary measures. Second, they do not require consumers to process food information. Third, they can help to level the playing field between food manufacturers, as they require all manufacturers to meet the same standards. Nevertheless, they also run the risk of over-regulating and of limiting consumers' freedom of choice.

In terms of setting compositional requirements for food, the EU legal framework is highly selective, with a strong curative capacity where compositional requirements aim to solve a certain dietary issue, but a limited preventive one where general compositional requirements aim to make food more nutritious for everyone in order to avoid potential health issues stemming from poor nutrition.

2. Policy Implications and Future Directions

Our findings about the state of the art of nutrition and health in the applicable EU food law frameworks lead us to ask what the potential added value of the Farm to Fork Strategy (F2F Strategy) is. Given that the creation of a healthy food system for Europe is a central ambition, one might assume that it would consist of a strong package of legal actions dedicated to health and nutrition. Table 1 provides an overview of the inventory of the health actions in the F2F Strategy and their current status.

The proposed actions indicate that the F2F Strategy never intended to address the risk and safety orientation of the GFL architecture. At best, it would have included a stronger health and nutrition mission for EU food law through the Framework for Sustainable Food Systems (FSFS), which is now politically stranded. The FSFS would have clarified that health is a component of sustainability, thereby addressing the tension between sustainability and health—health is not always considered a (strong) element of sustainability, which is often defined by ref-

160 Shauna Downs and others, 'The Impact of Policies to Reduce Trans Fat Consumption: A Systematic Review of the Evidence' (2017) 1 Curr Dev Nutr.; European Public Health Alliance, 'Eliminating Trans Fats in the EUropean Union' (2018) Briefing.

Table 1: Overview of health actions in the F2F Strategy

Action number	Legal implementation	Update	Comment
1	Legislative framework for sustainable food systems (FSFS).	Not in the Commission Working Plan for 2024.	Would have included and clarified that health is a component of sustainability. To be determined in Commission mandate 2025 onwards.
15	Launch initiatives to stimulate reformulation of processed food, including setting of maximum levels for certain nutrients.	Code of Conduct was published in 2021, does not set maximum level commitments.	Voluntary initiative.
16	Set nutrient profiles to restrict promotion of food high in salt, sugars and/or fat.	EFSA Opinion on nutrient profiles has been published, FIC amendment not tabled.	Initiative is limited to restricting health and nutrition claims.
20	Proposal for a harmonised mandatory front-of-pack nutrition labelling to enable consumers to make health-conscious food choices.	FIC amendment not tabled.	Politically unlikely that a single scheme, e.g., Nutri-Score will be proposed.
22	Determine the best modalities for setting minimum mandatory criteria for sustainable food procurement to promote healthy and sustainable diets, including organic products, in schools and public institutions.	Public procurement was initially meant to be included as part of the FSFS; now the drafting of SPP criteria that are akin to the GPP criteria is discussed.	To be determined in Commission mandate 2025 onwards.
23	Proposal for a sustainable food labelling framework to empower consumers to make sustainable food choices.	As part of FSFS postponed, seems to be replaced by general initiatives such as the Green Claims Directive.	To be determined in Commission mandate 2025 onwards.
25	Review of the EU school scheme legal framework with a view to refocus the scheme on healthy and sustainable food.	No legislative proposal tabled.	

erence to the economic, social, and environmental dimensions only.[161]

In terms of legal actions, the ambitions of the F2F Strategy had been limited for nutrition and health objectives and became even more marginal due to the lack of political will in the implementation phase. Effectively, only the voluntary Code of Conduct has been passed, whereas all actions linked to the FSFS and the FIC amendments have not been tabled.

In terms of food information governance, one of the hallmark actions of the F2F Strategy was the mandatory front-of-pack labelling, which would have marked a move towards a directional food information approach. Politically, it seems that the proposal to require the Nutri-Score scheme is yet another stranded proposal.

Nevertheless, EFSA's scientific work on the nutrient profiles will provide an important scientific foundation that could ground future regulatory initiatives

161 WHO, 'Constitution of the World Health Organization: Basic Documents: Forty-Ninth Edition (Including Amendments Adopted up to 31 May 2019)', 1.

either in terms of informational or even in terms of compositional requirements. The political halt of the F2F Strategy means that a reform of EU food law will have to wait for a second phase[162] under the 2025 Commission. For the topic of health and nutrition, this may well be an opportunity—instead or complementary to a FSFS, a health-focused reform of EU food law could directly enshrine nutrition and health goals in the GFL and anchor these objectives better in the corresponding risk analysis processes and institutional structures.

IV. Conclusion

Our review demonstrates that current food law instruments address the protection of human health as an aspect of risk and food safety; while many laws refer to nutrition, these references are limited and both health and nutrition are not addressed as holistic concepts.

The GFL is particularly important in defining a transversally applicable legal framework. It addresses the health objective in a food safety context focusing on risk and hazard, but only addresses nutrition through EFSA's institutional mission. While safety-related health provisions are streamlined into secondary food legislation, nutrition, by comparison, is only addressed in a selective manner. This includes food information instruments that objectively showcase food content but lack a directional approach to guide consumers, and compositional requirements that address selective legislative purposes and target selective consumer groups or food components.

The selective consideration of nutrition-related health risks in legislation is aligned with reports and studies addressing the impacts of diet-related health conditions and a general perception of health as a cost rather than an investment.[163] This status appears disconnected from scientific and statistical evidence tracing the pathway from poor nutritional quality to unhealthy diets, malnutrition, and, finally, NCDs.[164] An ambitious approach for healthier and more nutritious diets would overhaul the current legal framework in a way that implements nutrition knowledge as a preventive health approach.

Overall, we recommend aligning policy and legislative objectives and developing clear conceptual frameworks for health and nutrition through an amendment of the GFL.

162 Hanna Schebesta 'How to Save the Farm to Fork Strategy: A Two-Phased Approach.' (2023) 18 *European Food and Feed Law Review* 231.

163 *Trade Unwrapped: Trade and Health* (Directed by Food, Farming & Countryside Commission) pt 15:29 <https://tradeunwrapped.uk/watch/professor-amandine-garde-and-professor-richard-parish-join> accessed 18 October 2022.

164 IPES-Food (n 1); 'Unhealthy Diets and Malnutrition' (*NCD Alliance*, 30 July 2015) <https://ncdalliance.org/why-ncds/risk-factors-prevention/unhealthy-diets-and-malnutrition> accessed 13 February 2022; The European Chronic Disease Alliance, The European Public Health Alliance and The NCD Alliance, 'Towards an EU Strategic Framework for the Prevention of Non-Communicable Diseases (NCDs)' (2019).