

Nutrition policies across Europe: a comparative analysis of two European countries

Norway and Italy

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Nutrition policies across Europe. A comparative analysis of nutrition policies between two European countries. *Norway and Italy.*

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IV

Abstract

Non-communicable diseases (NCDs) have been identified as the first leading cause of deaths worldwide. According to recent data published by the WHO, NCDs account globally for 63% of deaths. Such diseases are often complex and chronic, yet highly preventable.

Unhealthy diet is the main risk factor to the development of NCDs. This has led to a stronger interest on people's diets, making nutrition a highly relevant field within public health.

European countries are developing nutrition policies to fight NCDs insurgence. Such policies are implemented through different kind of strategies and interventions, apt to redirect population's food habits on an healthier path. It follows that such strategies and interventions are more often grounded within the local context, than within an analysis of what works and what is effective. The question is raised here if those strategies implemented are the result of path-dependency, as well as cultural and economic factors. This thesis identifies and categorizes such strategies. Furthermore, it isolates them from the external context, by defining such complementary elements.

National nutrition guidelines have been put at the core of these policies. Through the analysis of such guidelines, as well as national surveys and researches on population's food habits, population-specific dietary patterns have been outlined.

The aim is to figure out if countries are responding similarly to international challenges, targetting prefixed goals, or if other elements play a role in shaping such policies.

Defining policies is a hard task. In order to do so, a comparative approach has been selected. Two European countries were chosen, Norway and Italy. To highlight the impact of a national nutrition strategy as a preventive measure, national school meal programs are presented as a strategy to prevent the development of unhealthy diet, ergo the raise of NCDs.

The comparative analysis gave interesting results, with regard to both preferred type of strategy and food habits of each country. The State of Norway shows clearly a predilection for regulative type of strategies and policies interventions. Therefore, it is remarkable that school meals are left outside of governmental intervention, relying completely on families' behavior. On the other hand, despite its long tradition of leaving the government out of the private sphere, Italy regulates heavily the school food sector.

This difference gains strength when looking at national data on population's food habits, which show a raise of overweight/obesity through all level of population, especially among children. Seen within the context of national nutrition guidelines, it shines clearly through an intent, from both States, to perpetrate national traditions through how school meals are organized. When it comes to Norway, this desire seems to be in contrast with what could be an effective solution to redirect population's food habits on a healthier path. This is not the Italian case, were national guidelines, food habits and school meals seem to match.

Acknowledgements

While struggling to get the ends of my life to meet each other, and still being able to finish this thesis, I suddenly realized that the writing process of a master thesis is nothing more than this: a process.

And this process is not just limited to the writing part, the collection of data, the questions, the methods...

It's made up of all the delayed dinners you served to your child, of the birthday wishes you forgot to give and the extraordinary amount of coffee consumed.

It's also made of all the previous versions or the very-good-ideas you had to give up to, maybe for another year, another time.

So here's my advocacy for those fragments of life gone which always go missing, swallowed by the Process.

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to my sister, my uncle, my grandfather, who kept my spirit up through long Skype and WhatsApp calls,

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Abbreviations

CENSIS	Italian Centre for Social Studies and Policies
CREA	Centro per la Ricerca Economica ed Agraria
DALY(s)	Disability- Adjusted Life Years
DRG	Diagnosis-Related Group
FAO	Food and Agriculture Organization of the United Nations
FHI	Folkehelseinstituttet (Norwegian Institute for public health)
GBD	Global Disease Burden
GP	General Practitioner
INRAN	Istituto Nazionale di Ricerca per gli Alimenti e la Nutrizione
ISS	Istituto Superiore Sanità (Italian National Institute of Health)
ISTAT	Istituto nazionale di Statistica (National Institute of Statistics, Italy)
LCHF	Low carb, High fats
Min.Sal.	Ministero della Salute (Ministry of Health, Italy)*
Min.AAF.	Ministero per le Politiche Agrarie Alimentari e Forestali (Ministry of Agriculture, Food and Forestry)*
NCD(s)	Non-Communicable Disease(s)
NorKost	Norsk Kostholdsundersøkelse (Norwegian dietary survey)
SIUSA	Sistema Informativo Unificato per le Sovrintendenze Archivistiche (Italian National Archive System)
SSB	Statistik sentralbyrå (Statistics Norway)
WHO	World Health Organization

*The abbreviations hereby presented are author's own and are not to be taken for official abbreviations of Italian ministries. At the point of writing this thesis, no such official abbreviations were found.

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1 Introduction

To become – and stay healthy is a fundamental right to every human being. However, the premises for each individual to reach a satisfactory health state are quite different.

The illness picture of the European population is generally good. Nevertheless, Europe isn't disease-free and new kinds of diseases are challenging the very nature of the health systems. The health system so far has developed around one basic principle: to take away the disease from the patient, to cure it. It is a curative system and at its core lies the institution of the hospital, as a place where to be temporarily admitted to be cured and then leave.

These new kind of diseases do not allow this same approach: diseases such as heart and coronary diseases, diabetes, cancer, obesity and overweight are not going to be treated by a short-term hospitalization, but require a long-term change in lifestyle and a willingness to commit to that change.

This long-term nature of diseases has emphasized prevention rather than cure, underlying the wide potential of preventive actions.

Internationally, there has been a shift towards a more decentralized health system, aiming to prevent, rather than cure, making health care more of an individual matter.

Even if preventive strategies are many, there is a general agreement on the dominant role of a balanced nutrition on people's health state.

Food is necessary to live and is central to health and disease. The food systems can contribute to the health, economic and social wellbeing of communities, cities and regions. Nevertheless, the right to "food" is not just the mere intake of right amount of nutrients, but it undertakes also social and cultural values. Nations are committed to ensure that all population groups have access to an adequate diet – thus, governments need to define what's healthy food, to merge this notion within the particular context of their own country and then are to spread this to the population. This task is not easy.

The focus of this thesis will be what has been done so far in two European countries, when it comes to nutrition within a public health approach.

2 Background

Non-communicable diseases (NCDs) are a challenging threat. The leading international actors are advocating for overarching, country-based approach, as the only way to effectively defeat it. According to the World Health Organization, this approach could be very expensive, engaging a lot of resources and the scope of its impact on a country level hasn't been established yet, (WHO 2015a). On the 27th of May, 2013, the Ministers of 194 countries approved the Global Action Plan for Prevention and Control of Non-communicable Diseases, 2013-2020. (WHO 2015a)

Major NCDs are multifactorial and the determinants underlying those are often outside the control and influence of the healthcare sector. Those determinants could be either intrinsic to individuals' genetics disposition, such as high blood pressure, raised blood sugar and raised cholesterol (WHO 2013a) or external factors, linked to social environment and lifestyle. There is a global understanding of the 4 main categories of risk factors belonging to the latter. Such external and modifiable risk factors include tobacco (1) and alcohol consumption (2), inadequate level of physical activity (3) and an unhealthy diet (4).

During the last decade attention has globally been drawn to the latter: the world is facing an epidemic of malnutrition, which is splitting the world into two categories; while one part of the world's population is struggling with increasing rate of overweight and obesity, accompanied by those diseases related to that, the other is suffering famine, according to the Food and Agriculture Organization of the United Nations (FAO 2015a) This disparity might be found within countries too, as such categories don't follow national boundaries.

According to the WHO, overweight and obesity are proved to lead to more deaths worldwide than under nutrition today. (WHO 2004)

In the western part of the world, there is enough food for everyone. The challenge rather relies in controlling quality and amount of food intake. Environmental and societal changes, such as increasing urbanization, leading to a decrease in physical activity, and the increasing intake of processed food, all contribute to population's increasing level of BMI. (WHO 2004)

The need for a more decisive political commitment to nutritional policies has been established, and worldwide governments are gradually taking further actions in that direction.

Even though regional differences must be taken into consideration, the need for a strong guidance on the national level—i.e. the government-endorsed guidelines and overall national

nutrition policies—is indisputably imperative. Moreover, the increasing mobility of people across national borders demands an exchange of research information regarding the nutrition-related topics.

Alongside with the emanation of nutrient population goals, there is also a need for translating those goals into food-based dietary guidelines, and to carry out the information flow to actual impact on the population. Governments may consider alternative strategies that will lead to actual change in population dietary patterns (WHO 2013a).

The extent of the impact from these actions depends on several factors; for instance, how the government is traditionally involved in the life of its citizens.

In order to define nutrition policies and to better identify implementation strategies and interventions, it was found purposeful to do a comparative analysis. To this aim, two European countries were selected, Norway and Italy.

In Norway, the NCDs are estimated to account for 87% of the total deaths; for instance, cardiovascular diseases are accountable for the 33% of the total. Among the main risk factors, the most notable in relation to this research is the obesity rate, estimated by the Norwegian Institute for Public Health (Folkehelseinstituttet -FHI) to be 21,5% of the population in total. (FHI 2012) In Italy, according to the recent data published by the Italian National Institute of Health (Istituto Superiore di Sanità -ISS) the number of deaths related to NCDs account for the 92% of total deaths, with a prevalence of cardio-vascular diseases, calculated to be 37% of the population mortality. Obesity is estimated to be 19,8% of risk factors. (ISS 2014) Nevertheless, a raising amount of elderly within the population could prejudice the real consequence of such data. In order to capture both premature mortality and illness prevalence, other data could be purposeful to be taken in account, such as loss of disability adjusted life years (DALYs). (Murray 1997) Within the European region, cardiovascular diseases are proven to be the leading cause to loss of DALYs and to premature death. (Murray 1997; Lozano 2013) Even if slightly decreasing, cardiovascular diseases are still responsible of the biggest share of outcome within European healthcare systems (ISS 2014). As stated in the Global Burden of disease study (2010) in Norway as well as in Italy, the firsts cause of disease burden are ischemic heart disease and cerebrovascular disease, followed by respiratory diseases and cancer. (Lozano 2013) The main risk factor identified in both countries is unhealthy diet. (Lozano 2013)

Even if these two countries are quite close with regard to the health care system, they do show some differences, especially when it comes to political culture and food traditions.

Among system's similarities, the most evident one is that both countries belong to the National Health Service model, which is based on general taxation and fiscal decentralization. Both countries adopted a prospective reimbursement system, while combining activity-based funding with per capita financing, primary health care, or linked to the Diagnosis-related group (DRG) classification system with risk-adjusted capitation, in the specialist care. (Hagen 2015)

However, the very diverse cultural and political settings will empower each of the two governments with different tools. Consequently, the effective impact of their national strategies would vary considerably.

2.1 Norway

Norway is a constitutional monarchy, with a parliamentary system and where governance is enacted on three levels: the national, the counties and the municipalities.

Healthcare in Norway is provided by a universal, tax-based system, which relies, for reimbursement, on a GP's activity-based funding scheme (Hagen 2015).

When health matters, the responsibility is divided as it follows. On the national level relies the responsibility for secondary care, delegated to four regional health authorities (in Norwegian, *helseforetak*). The second level of governance shows the county authorities as responsible of dental care and to some extent public health, while the municipal authorities are responsible for health promotion, primary health care, as well as care of the elderly and of people with disabilities. (Ministry of Health care and services 2013a)

The Norwegian welfare system is characterized by an extensive governmental intervention. The high level of centralization of political authority, along with a high degree of state involvement within citizen's private sphere gives the Norwegian government a potentially high ability of intervention. Local democracy is very important and is enforced through legislation and parliamentary decisions, with the Parliament adding (or subtracting) duties to local authorities according to nation's needs. It follows that Norway has a high level of centralised control of local authorities.

Prevailing principles within this system are universalization of access and right to health care services, equality and transparency of administrative processes. (Ministry of Health Care and Services 2013a)

When it comes to nutrition, the Norwegian Government has held on to a long-lasting tradition of centralized, political governance. On the ministerial level, two official bodies were given the responsibility, until recent years, to define and coordinate national nutrition and food policies: the National Food Control Authority (*Mattilsynet*) and the Norwegian Nutrition Council. (Bendich 2005)

Nowadays this council has been included in the Directorate of Health as a department, while the Food Control Authority is still following its original mandate, and will not be an object of this thesis.

The Directorate of Health detains now the overall responsibility for monitoring population trends, conducting independent studies and producing guidelines and recommendations on nutrition matters.

The Directorate is structured as it follows: it is divided in 8 Department, dealing with public health, health economics and financing, e- Health and digital services, primary and secondary care, as well as health workforce education and administration. (Tab.1.0) Few external units are in addition to the ones mentioned here. (Health Directorate 2015e)

Each and every of these departments are then subdivided in several sections and units.

Nutrition is submitted to the Department for Public health, spread among more than one section. (Tab.1.1)

Table 1.0. Norwegian Directorate of Health

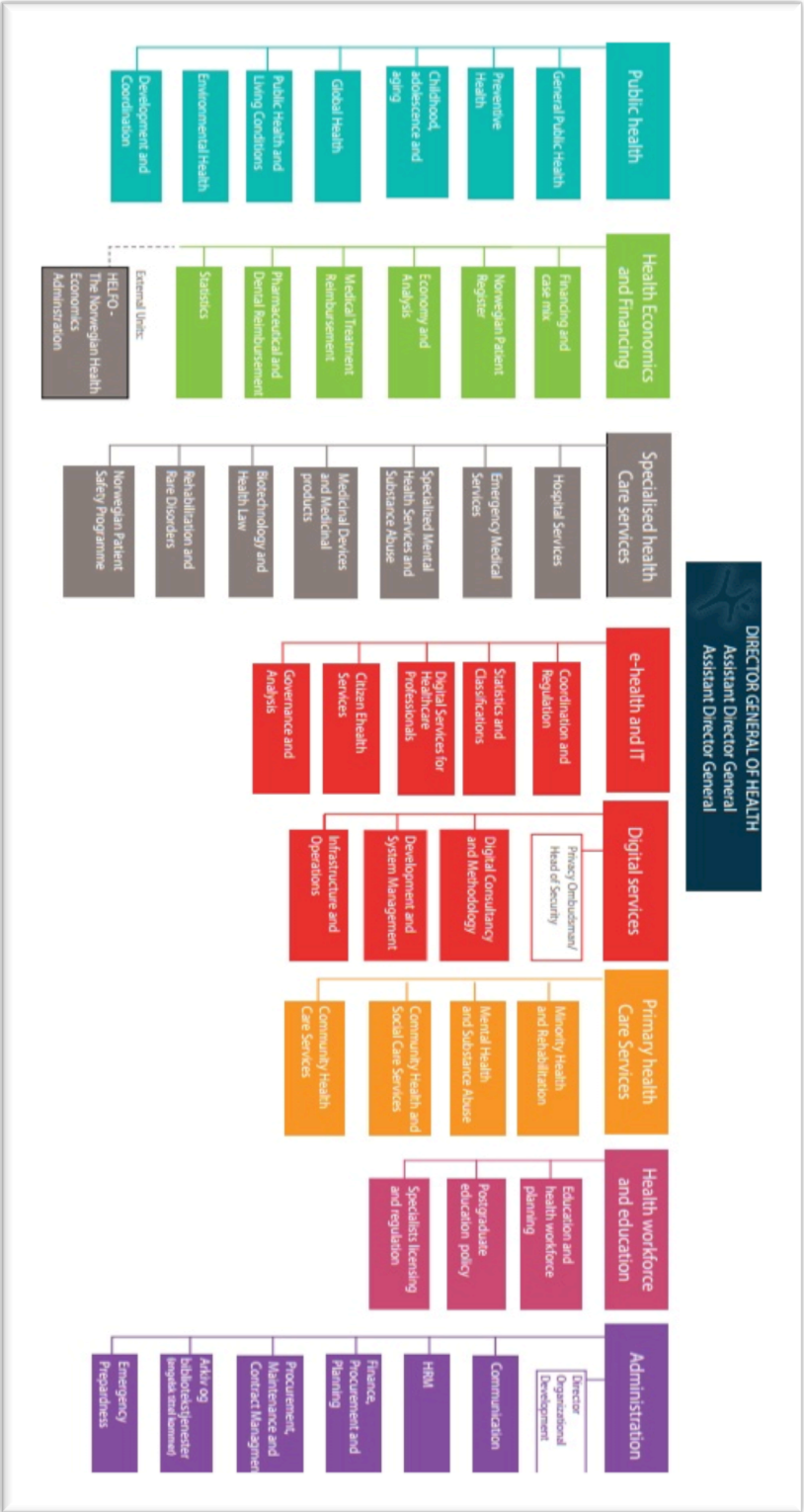


Table 1.1.: Where is nutrition allocated

Within the Health Directorate, the Public health division: structure.



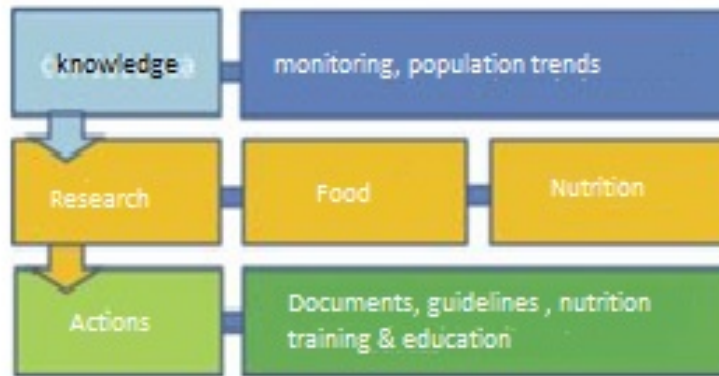
Every year the Directorate releases a rapport with the most recent data collected on the population level, aligned with updated recommendations and guidelines.

When this thesis was started, the latest report to be published was “Norwegian guidelines on diet, nutrition and physical activity” (2014). It was largely based on two previous documents: the “Food-based dietary guidelines for public health promotion and prevention of chronic diseases - Methodology and scientific evidence”, and the “Nordic Nutrition Recommendations” (2012).

While the former was a national report, drafted by Norwegian experts on nutrition and health the latter had a more international approach, being the result of the work of a “Nordic” commission. This commission is to be considered within a broader project of cooperation among the Nordic European states. It was launched by the Nordic Council of Ministers, the official inter-parliamentary body of the Nordic region. (Health Directorate 2015d)

The process which led to the guidelines mentioned above was transparent and involved approximately 100 experts.

Tab. 1.2: The role of the Norwegian Health Directorate



Recently, also the Government explicitly addressed dietary improvements and nutrition as a healthcare strategy through a white paper (Ministry of Health and Care Services, 2007a; 2014a). In addition, the government has elaborated an overarching strategy, which is intended to reach out to every level of society. (Ministry of Health and Care Services 2007a)

Additionally, the Norwegian state has undertaken other kind of measures to increase healthy eating, i.e. cutting down VAT on healthy food, or introducing particular labeling systems, to help the public to identify the healthiest alternative within a specific food group. (i.e.: the keyhole label)

The government has also highlighted the role played by municipalities which, being closer to the population, might play a major role in enhancing population's habits. (i.e.: Healthy life-centres)

2.2 Italy

The Italian Republic is a unitary parliamentary Republic, based on a proportional voting system and with a bicameral parliament.

Healthcare in Italy is provided by a universal mixed public-private system, which relies on an activity-based funding scheme for reimbursement. (Hagen 2015) Following the subsidiarity principle, the public part of the system is articulated in two main administration levels: the national and the regional level. On the national level, the Ministry of health (*Ministero della Salute*, MDS) is accountable of granting every citizen the same right and access to essential health

services (Livelli Essenziali di Assistenza – LEA). On the second level the Regions, acting as juridical autonomous entities, are responsible for realizing those services.

The Italian healthcare system is based on the values of universality of access, equality and equity of services and treatments, as explicitly addressed in the law on the establishment of the National Health Service (1978).

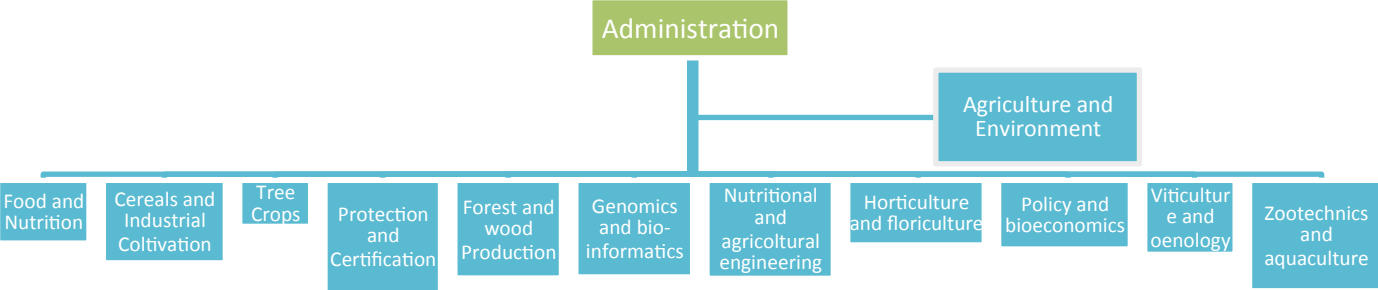
Governmental intervention is not touching deeply within people's private sphere. In-depth governmental involvement is neither common, nor well-seen. Culturally, much stronger emphasis is put on informal structures, such as families, churches or communities, to play a determinant role in the life of individuals.

The low degree of state involvement in people's private sphere does not provide the state with many tools to eventually influence population's eating habits.

The Italian health care system is highly decentralized, making it challenging to trace back how policies are developed, and creating huge variances on how such policies are enacted throughout the system's different elements. This led recently to a renewed focus on transparency of public administration.

As far as nutrition is concerned, it lies both under the general mandate of the Ministry of Health (Ministero della Salute – Min.Sal.), when it comes to nutrition and health and prevention, and under the Ministry of Agriculture, Food and Forestry (Ministero politiche agricole, alimentari e forestali – Min.AFF.) when it comes to food policy and safety.

Table 1.3.: Structure of the Italian Council for Agricultural Research and Economics (CREA)



This organization chart is author’s own, based on the description of the council available online on Council’s website, www.crea.gov.it

The Ministry of Health is in charge of developing general guidelines and procedures in matters of health, alongside with the planning and direction of those down through the system. It also defines goals for the improvement of public health and establishes the level of care accessible to all citizens.

Through triennial national health plans, it establishes the main health care goals, dealing both with preventive care and therapy, as well as food hygiene and food safety.

In most cases, the Ministry of Health acts within an institutional doublet, wherein the overarching decisions on political, strategic and budgetary issues are taken by the Ministry of Health, while the other part of the doublet (the ISS, any Region or ASL) will speak and act according to these decisions. (DPCM 2014)

Often, this role of “counterpart” is undertaken by the National Health Institute (Istituto Superiore di Sanità) or by the Regions which, according to the Italian law, play a crucial role in Health matters. Other important actors are the Local Health Agencies (Aziende Sanitarie Locali-ASL).

The Regions constitute the second policy level and correspond largely to the geographical regions, comprehending also the autonomous regions of Trento and Bolzano. They are organized

in several local health authorities (Aziende Sanitarie Locali – ASL) and Hospital Agency (Aziende Ospedaliere – AO) throughout which the regions and municipalities are able to grant access to primary care services. Each Region and, subsequently, each ASL is organized quite differently. However, there are 3 main functions lying at the core of every ASL: the Hospital (Presidio Ospedaliero), the District for social health (Distretto socio- sanitario) and the Department for prevention (Dipartimento di prevenzione).

The latter is in charge of the promotion of public health and the prevention of diseases. At the same time, it plays a determinant role coordinating initiatives and projects which aim to deal with the areas of quality of life improvement and animal health and food security. The Department works on several areas, among which food security and nutrition as a prevention strategy stand out.

Looking at nutrition as a study subject, it appears to be an overlapping between the Ministry of Health and the Ministry of Forests and Agriculture, which is *de facto* in charge of supporting research on this field.

The CREA (Council for Agricultural Research and Economics) is in charge of gathering the most updated evidences within nutrition science, and to contribute to the field, while developing the actual dietary guidelines to be enforced by national entities. The CREA main area of interest is research and technological development. It focuses on management of natural resources, as well as the promotion of innovation in agriculture and the improvement of quality of diets with studies of indigenous populations (in developing countries).

Much alike the Norwegian Helsedirektoratet, the CREA is in charge of monitoring population's trends and dietary patterns, do research on nutrition science and of producing the material on which nutrition policies must be based upon.

It collaborates closely with the National Research Council (Consiglio Nazionale delle Ricerche-CNR) which deals with research and technological development within the areas of Agriculture and Food Sciences, Bio- Medicine, Engineering, Environmental and Social Sciences.

The CREA has a central Administration and is divided in 12 Research Centers, which covers a broad range of agricultural and food-related aspects.

(Environment and agriculture, Food and Nutrition, Cultivation of Cereals and industrial cultivation, Tree crops, Protection and certification, Forest and wood production, genomics and

bio-informatics, nutritional and agricultural engineering, horticulture and floriculture, policy and bio-economics, viticulture and oenology, zootechnics and aquaculture).

Tab.1.4: The role of the Crea



2.3 How is prevention financed?

As mentioned above, it is a difficult task to define where prevention starts and where it ends, which actions are to be considered as explicitly preventive action, and which are not. For example, building a new public transportation system in a city would eventually affect people’s ability to get around without taking the car, influencing their physical activity habits. However, the planned budget to undertake such an action would not necessarily be defined as a “prevention-budget”.

Even within the healthcare field alone, the concept of strategic prevention has now grown to encompass such a variety of approaches which have made it hard to isolate those interventions which are truly “preventive”.

Despite these difficulties, there are some funds or economic incentives explicitly devoted to financing preventive strategies, which the following paragraphs would briefly depict.

2.3.1 Norway

In Norway, there is a strong desire on maintaining the right balance between national interests and local democracy. As a result, municipalities and counties are given wide freedom on how to prioritise and adapt services to better respond to local needs. (Kommunalbanken 2014)

The largest share of funding received by the local sector comes from central government transfers, which made up to 47% of municipalities' budget (Kommunalbanken 2014). Local taxation contributes with 34% to local budget, while public services and property income made up for the rest. (KBN 2014)

As a consequence of the Norwegian Coordination Reform (St.meld. nr.47) and the more recent Public Health Law (2012), alongside with the statutory delegation of new tasks, the general pot of governmental subsidies to municipalities has been reinforced. Those subsidies are to finance municipalities in the following areas: community development, urban planning, public administration and services and preventive health care. (Health Directorate 2014b)

No earmarked financial incentives have been delivered specifically to promote investment in preventive measures. It has been up to each municipality to decide which amount to invest in preventive interventions. This poses an obvious challenge to how to harmonize any interventions within a long-term perspective. (Riksrevisjonen 2015)

However, municipalities can apply for project-based financing and the Health Directorate has strongly suggested projects or interventions to prioritize (i.e.: healthy life centres) (Health Directorate 2014b)

2.3.2 Italy

The biggest share of prevention funding comes from the regional level: Regions, ASL and several funds for development and cohesion are all recipients of subsidies destined to promote, among others, also preventive strategies. However, a huge amount of these funding comes from communitarian subsidies (EU) which are accountable for ca.80% of the prevention budget, while only the 20% comes from governmental subsidies. (Thomson 2013)

Within the budget designed intended for and through the Local Health Authority (ASL), a certain amount is devoted to lay out preventive interventions, such as no smoking-and anti-drugs

campaigns. Internal to each ASL, the Department for prevention, in charge of health promotion and disease prevention organizes and finances prevention initiatives. Beside from that, the administration of each municipalities or local entity might also apply for funds to support a particular, mostly short-term, project. (*community-raised projects or interventions are a common reality throughout Italy*)

This kind of support is ad-hoc and its amount or objectives vary from year to year.

Another obstacle to depicting prevention finance through the system is posed by the division by topics. In fact, one of the main characteristics of the Italian system seem to be that a certain topic is often tackled with as a *topic*, and is not ascribed to any specific sector, thus not embodied in just one office/institution. This involves an overlapping of accountability and allows an extreme diversification of institutional approaches.

3 Concepts and frame

This chapter will be divided in two sections. The first part will focus on the definition of concepts fundamental to this thesis.

The second part will dwell on a short presentation and problematization of this thesis' topic. Some theories on nutrition and diets will be mentioned as well.

3.1 Definitions

Healthcare, policy and systems

To the purpose of this thesis it is important to draw a line between the terms health policy, health systems and health care.

The term "health policy" includes two very broad concepts, the one of health and the one of policy. Following WHO's own Constitution, health is defined as "*a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity*". (1946) "Policy" is a common term in people's everyday life. Generally related to a "collective" actor (an enterprise, an institution) it refers to an expression of intents as well as to a set of rules and norms to guide actions. (Blank 2010). The focus of this thesis is on those policies adopted on a governmental level, referred to as "public policies". Those policies which affect the health of the population as a whole will then be defined as "health policies". "Health care policy" would be defined as that course of governmental actions which deal with the financing, provision and governance of health services. (Blank 2010) Both concepts should be understood within a broader framework of social and economic welfare.

The comparative analysis of health policy would necessarily make use of categories, regarding each and any of health systems as representative of a particular type. Traditionally, there are three models in use: the National Health Service (NHS) also called Beveridge model, the National Health Insurance model (NHI or Bismarck's) and the private insurance model. (Blank 2010) The two countries in exam both belong to the first type.

Nutrition

Currently, nutrition seems to be defined as a biological science, although its governing and guiding principles are only implicit and no general definition is evident. Much of this uncertainty

seems to be due the lack of a general theory, able to organize facts and manage research in this field. (Beauman 2005)

The WHO defines nutrition as *the intake of food, considered in relation to the body's dietary needs*. This definition is lacking: for instance, it doesn't include any behavioral, social and environmental aspect which are inherent to human beings. Other languages than English operate with a distinction between nutrition as a science and nutrition as a research discipline. This is the case of Italian, whereas *nutrizione* is seen as the biological process involving all living creatures, while *nutrizionistica* is the research field dealing with the study of food and its effects on the body. (Gabrielli 2015) Some other languages divide it also from dietetics, considered as “the science of applying facts about food and drinks to be used in the feeding of the body”. (Beauman 2005) Beauman et al. (2005) presented another working definition, which was meant to embrace all those aspects left out by the others: “*Nutrition science is the study of food systems, foods and drinks, their nutrients and other constituents, and of their interactions within and between all relevant biological, social and environmental systems.*”

This thesis will refer to the definition of nutrition suggested by Beauman (2005). Nutrition will be considered an adequate, well balanced diet combined with regular physical activity. The focus on nutrition as a fundamental preventive care strategy and a milestone for achieving (And maintaining) good health is justified not only in its intrinsic importance, but also in its malleability.

Of all risk factors and curative strategies, nutrition is the easiest modifiable (contra genetics) and the cheapest one (contra environmental changes).

Malnutrition is a wide term which embraces both undernutrition and overweight. It's defined as an unbalance between the food intake and the real needs for nutrients of an individual. In general, malnutrition over a longer period would weaken the immune system, increasing susceptibility to disease, impaired physical and mental development, and reduced productivity. (FAO 2015c)

Prevention

Within health care, the term prevention includes all those actions or interventions which are aiming to avoid a phenomenon to emerge. Medical prevention can occur on different administrative levels and is divided in two categories. Primary prevention is defined as the first level of health care, designed to prevent the occurrence of disease and to promote health. Secondary prevention constitutes the second level of health care, based on the earliest possible

identification of disease so that it can be faster treated and any adverse events can be prevented from happening. Speaking of prevention, this thesis will refer to the first type, primary prevention, focusing on national policies and strategies within it.

Health Promotion

The definition of health promotion has undergone several changes, to embrace several dimensions. Since the late 80ies it has addressed the need of a broad, overarching strategy, aimed to empower both people and community to work toward better health. (WHO 2005)

Nowadays, health promotion is seen as an integrated, multi- strategic process, which has at its core to increase individuals' and communities' possibility to improve their health, through sector- crossing/intersectorial interventions.

Health promotion is primarily seen as developing a comprehensive strategy aimed to change behavioral, as well as environmental, factors. Following this definition, health promotion may include a wide range of public policies, such as those concerning income, housing, employment, literacy, food industry and food security, quality of working place, public transport, environment, agriculture or fishery.

It may be conceptualized within different frames/contexts, such as health promotion at work and health promotion within and between countries.

Lately, there is also been a tendency to assimilate health promotion to health education or social marketing. (WHO 2016) Such terms are not addressing the same phenomenon and thus should not be confused.

Prevention or Health Promotion?

According to the definition laid out above, prevention is defined as all types of interventions which main scope is to avoid a phenomenon to emerge. Within health care, that phenomenon would be a disease, thus prevention would implicitly refer to "disease prevention".

Public health seems to point out two different "realms" or settings, apparently conceptually different, but with very similar application fields: **disease prevention** and **health promotion**.

While **disease prevention** focuses on reducing the possibility of developing a disease, externalizing the problem (the disease) outside of the patient, highlighting the inevitability of the disease, on the contrary **health promotion** moves the focus back to the individual, giving him back some power upon his body and internalizing the health state as a field which a person can actively improve. Speaking of health promotion, this process of empowerment seems to be

usually extended to a broader “community”. (ex.: schools, health regions, municipalities, local offices for improving people’s lifestyles, and so on) while prevention appears rather to focus on the individual.

Being *health* defined as the *absence of disease*, those two realms are closely interrelated and the difference between those two realms seems to fade away within everyday practice. (Tengland 2010)

Eating habits

To the scope of this thesis the following expressions all address the same phenomenon: **eating habits, food habits, dietary patterns, food tradition**. Hence, this thesis will switch between those terms as synonyms. The phenomenon described is the consumption of food by a population within a nation’s geographical boundary. The definition encompasses both the meal pattern (number of meals pr. day, time of consumption and principal food) as well as the dietary pattern (dominant food and nutrients)

On a national level, the way of consumption is shaped by a series of concomitant factors, traditionally considered to be related to the country’s geography, demography and economics status. The availability and accessibility of food are among those most determinants factors. Also the level of urbanization, globalization, mix of culture or religions and marketing will contribute heavily to shape population’s food choice. (Kearney 2010) There is evidence that a country’s socio-economic development leads to a fall in population growth and a sudden shift in dietary patterns towards a diet richer in energy density and fats. (Dernini 2013).

Nutritional guidelines and Dietary guidelines

Need for nutrients: Nutrients are the fundamental elements that living organisms need to survive, develop and grow. Our knowledge about human nutrition is not definitely established, and debates about what human beings truly need tend to rise every now and then. However, there is a common agreement on dividing nutrients into 2 main groups: macro-and micronutrients. Macro-nutrients are needed in large amounts, while micronutrients are needed in relatively smaller amounts. There are also several sub-groups of micro-nutrients, including antioxidants, phytochemicals, and vitamins. Usually, foods contain a mix of nutrients, alongside with other substances. (Anand 2015)

Nutritional guidelines: Nutritional guidelines are hereby defined as those recommendations based on nutrient and nutrient goals. Nutritional guidelines comprehend reference intakes of

nutrients, suggestions of reduction of total fat intake (30% of energy intake) and restrictions to assumption of saturated fats and towards the elimination of trans-fats. Such guidelines consider also the intake of carbohydrates, of free sugars (less than 10% of total energy intake) and of salt, which is recommended to be less than 5g a day (WHO 2013a)

Food-base dietary guidelines: Food- based dietary guidelines (FBDG) are “*intended to establish a base for public food and nutrition, health and agricultural policies and nutrition programs to foster healthy eating habits and lifestyles.*” (FAO 2015a)

They differ substantially from nutritional guidelines in providing advices based on foods rather than on nutrients. The assumption underlying this choice of strategy is that people understand and enjoy food much more than complex biological nutritional terms. Simplicity of the strategy is supposed to increase its actual impact/influence on people’s lifestyle. FBDG should be adapted to the country’s specific needs and cultural mix. They should also be adapted to the prevalence of NCDs in each country. (FAO 2015b)

3.2 Brief presentation of thesis’s topic

The present thesis presents a comparative analysis of national nutrition policies.

The two countries in exam present both similarities as well as differences, with regard to culture, geography, economics and health systems. This makes them interesting for comparison.

At the point of writing this thesis, similar studies were not retrieved.

Nutrition as a preventive strategy has been gaining increasingly attention in the last few decades. In 2003 a technical report was published, directly addressing this topic. The *Diet, Nutrition and the prevention of chronic diseases* (2003) was the result of collaboration between WHO and FAO on such a matter (WHO 2003).

Although the benefic effects of some food rather than others on human beings have been an object of studies since the dawn of civilization, nutrition has struggled to establish itself as a “proper science” within Western civilization. It’s only in very recent years that nutrition has gained popularity, alongside with a status of a integrated science. (Beauman 2005)

It follows that this field is not fully developed yet, and much has still to be discovered.

The development of nutrition as a science has seen a shift of focus from studying single nutrients effect on the body, to study the complex interaction of nutrients within a social environment and within individual health status.

However strong evidences could be in favour of a particular food, there is always the possibility to see that effect modified in a different context. (Health directorate 2011) There are several processes and factors governing the influence of nutrition on development of a disease. In order to determine the real impact of a specific diet on a range of diseases, it's therefore important to take into account also population food habits ad dietary pattern. Both habits and patterns vary between states, regions and districts, not to mention that they're highly dependent on individual's cultural background and socio-economic status.

During the years several diets have been defined and their effects on health analysed, such as the LCHF (low carbs high fats), vegetarian and paleo diets. Main interest of this thesis will be those diets which are geographically determined, as for instance the Mediterranean, Chinese, western, Nordic diets.

Among those, when it comes to positive health effects, the Mediterranean diet enjoys a privileged position, with several studies affirming its superior health benefits when it comes to cardiovascular disease- prevention. (Seven Country Study; Lyon Heart Study; Dietary factors and coronary heart- disease)

Knowing the high degree of state involvement in nutrition policies, together with the wide deployment of economical tools and the high status of evidence- based scientific knowledge required by that, it was of particular interest to compare the Norwegian diet to a "well-established" and highly ranked one. The choice felt on the Mediterranean diet. Thus, the choice was made based on an "*a priori*" approach.

The choice of the two terms of comparison, Italy and Norway, was driven by the hypotheses that those countries are fair representatives of their traditional eating habits.

However, the terms "Mediterranean" and "Nordic" diets are merely technical and are not to be intended as an actual description of the contemporary way of eating of the two countries compared.

The analysis of guidelines and surveys contents will lead to a more fact-focused approach, with deductions and theory springing out from data. (*a posteriori* approach).

Following, a brief description of the theorization of the diets object of this thesis.

The **Mediterranean diet** is usually referred to as the dominant diet of those countries surrounding the Mediterranean, such as Italy and Greece. However, this term is actually based on the traditional meal and dietary patterns which were ruling in Southern-Italy, Crete and Greece at the beginning of 1960ies. (Willett 1995) This diet was characterized by a high intake and variation of vegetables, fruits, seeds and legumes, as well as a large use of nuts, potatoes and other root vegetables. Principal source for fats was olive oil, while dairy products were employed in small quantities.

The intake of white meat, fish and eggs was low to moderate, while red (or processed) meat was extremely rare.

Food habits related to this diet were eating warm meals 3 times a day, and high level of physical activity. Moderate consumption of wine was also included, consumed along with the meal. Evidently, this was a diet rich in monounsaturated fats, fibres and vitamins. (NRR 2012)

A **Nordic** way of eating is characterized by a high intake of fats and salt, and a moderate to low intake of proteins and vitamins. Traditionally, Nordic countries have served simple meals, with 2 (out of 5 meals) consisting of buttered bread slices, topped with cheese, vegetables or preserved meat or fish.

As a consequence of a harsh climate, preserved foods have a privileged position in this diet: fish (and sometimes meat) is usually dried, smoked, salted or pickled. Staple foods are potatoes, cabbages and onions, alongside with rye bread. There is not a large variety of fruits (mostly apples), but berries and nuts do cover an important role. Alongside with milk, also other dairy products are heavily consumed, such as butter, cheese, sour cream. (Kjærnes 2001) A Nordic meal pattern is usually composed by 4 small (often cold) meals and 1 hot meal. Alcohol consume is a sensitive topic in the Nordic region, and countries positions on it vary a lot.

4 Research Question

4.1 Main question

National nutritional policies are of complex nature. In order to be effective, they are called to be intra-sectorial and multidimensional (WHO 2003) This complexity poses a challenge when wanting to trace back strategies, their effects and their financing.

This thesis aims to:

1. identify and describe national nutrition policies implemented in two different countries
2. identify and describe which strategies have been implemented to realize such policies
3. define country-specific dietary patterns through an analysis of government-endorsed documents and while comparing the two countries in exam

Main purpose behind this thesis has been to depict how national nutritional policies are carried out, which strategies are implemented and if such strategies are reaching out to the population, trying to set people on a healthier path as regard to eating.

4.1.1 Underlying hypotheses, questions and assumptions

The main hypotheses of this thesis has been that governmental nutrition strategy have an impact on population food habits. Those policies are implemented through a set of strategies, designed and carried out within each national setting.

One fundamental assumption behind this thesis is that those strategies can be identified and analyzed. One underlying question which derived from this analysis dwells on identifying complementary factors which, alongside with the national policies; contribute to shape population eating habits.

By identifying also such factors, it is possible to isolate the strategies. Stripping them off concomitants factors, an analysis of effects of each strategy may be attempted. This could lead to rank strategies according to their effect and to provide “success -stories” of public policy, following a traditional organization- theory’s approach (Christensen 2010)

This thesis does not attempt to go that far. Nevertheless, it provides suggestions on what might work and which other elements policies should be adjusted for.

4.2 Norway and Italy

When thinking about traditional dietary patterns, Norway and Italy look as far from each other as possible. Moreover, the continuous appraisals of the Mediterranean diet during the years have contributed to shape the public opinion to think of Italy as a much healthier country than a Nordic one such as Norway.

The challenge of an increasing unhealthy population has been internationally claimed, and governments have been called to action. Both governments in exam have addressed the matter of lead their national diets on a healthier path. This healthier way of eating is made explicit by nutritional guidelines. Such guidelines are, in both countries, based on the most updated, recognized and available scientific evidences. At the same time, both countries are listed within European countries, are similar when thinking of the geographic and political context. It follows, that there should not be any remarkable difference in the two governmental documents.

The guidelines are assumed to be a reflection of how people eat within each country, combining both meal structure and principle ingredients to be found on everyday plates.

This thesis originated by an interest to investigate if there are differences among the national guidelines and to identify which other factors, concomitant to illness-scenario and evidence-based knowledge, may be playing a role in shaping population's eating habits (e.g.: food culture, political structure, climate)

4.3 Case-study Question

In order to describe the current food habits in each country, a case study was conducted. The case selected to analyse was public school meals. This choice was funded on the following assumption, that public school meals would reflect what written in the guidelines. Another interesting factor is that schools form future's grown-ups. Within a school setting, children get to interiorize a wide spectre of norms and habits which would mark their future behaviour. Looking at food habits, there is reason to believe that the way children are eating in schools today would influence their future eating habits. (Levine 2010)

5 Methods

The present thesis proposes a health policy analysis in a comparative perspective. This thesis follows a deductive approach which spread out by empirical, first-hand observations, then hypotheses formulation and testing through research. In this case, an extended literature research was the main source of information.

A comparative approach allows to explore a known phenomenon in-depth and to check if it is valid under any circumstances, in this case, to check for transferability to different national settings. (Johannessen 2015)

In order to do so, the first necessary step is to define the policy field of interest, in this case, the nutrition field as a public health strategy. The following step has been to individuate which strategies can be traced back to this domain, for each of the countries in exam. Finally, a comparative analysis was carried out. Additionally, it'd be interesting, and certainly valuable, to analyse the degree of general applicability of such strategies (their transferability within different national settings) and their cost- effectiveness. One of the underlying aims of this thesis was to contribute to outline the background of such a path.

5.1 Design

This thesis is based on a vast literature research. The analysis conducted relies on author's own interpretation of documents and data gathered until January 2016. The documents collected are of different types. The first type is made of governmental guidelines, strategic plans and official publications made up the fundamentals of this thesis. In order to gain knowledge of the field and on how this has been earlier addressed, also review papers and scientific meta-analyses were consulted, which made up the second category of documents. Such documents comprehended studies on nutrition as a general subject, nutrition as a tool for preventive care and studies on dietary patterns in one of the two countries selected.

The lack of an established, generally agreed on, theoretical approach to nutrition and to evaluation of nutritional policies, has posed quite a challenge. To confront it, some theoretical choices have been made.

In order to answer to the research question of to what extent national nutrition guidelines may influence population's food habits, and consequently which impact they may have on development of lifestyle related diseases, the following approach has been chosen.

First, it was necessary to gain background knowledge and knowledge of the field. It was also imperative to figure out if any similar analyses, of one or more countries, had been carried out before. To do so, an extensive literature research was undertaken.

Finally, information and data on strategies of both countries were collected, and an analysis carried out.

This thesis is based on official, governmental publications and documents. Review papers and scientific meta-analyses have been used as background material, to get further knowledge of the chosen topic and on how it has been earlier addressed.

This thesis is a comparative case-study, whereas one particular phenomenon, a public health policy strategy, is examined to figure out if the strategies are having any positive effect on the two countries and to which extent.

5.1.1 Why a comparison?

The choice of making a comparison relied upon some fundamental assumptions: similar countries set out similar strategies or policy interventions. As a consequence of the multidimensional aspects of such strategies, it is difficult to isolate and evaluate the effectiveness or impact of each single strategy or of the policy in general. A comparative analysis was used to determine which factors are explicitly policy- driven, which implicitly, and which are more a consequence of economics laws or cultural norms. The underlying assumption here is that successful, policy- driven strategies could be repeated, while adjusting for cultural and economics variations.

5.1.2 Why Norway and Italy?

The choice of comparing Norway and Italy relied upon several factors.

- (1) Firstly, as regarding to health systems categories developed by the OECD, both Norway and Italy belong to the same health system archetype.
- (2) Secondly, because of their geographic proximity position and closeness of politics and trade, there are reasons to argue for a high degree of cultural affinity.
- (3) Thirdly, the case of Norway and Italy is exemplary as the two nations differ considerably under a socio-demographic aspect and accessibility to natural resources, which in turn affects food production and how national food habits are shaped.

Taking into account these factors, it seems interesting to investigate how far country variations are accountable for the effectiveness of national strategies – how much such strategies are ergo “transferable” into different national setting.

The comparison of two nations is based on two fundamental assumptions: first, it is assumed that to one nation, only one homogeneous population is found. Secondly, that those two populations are comparable with each other. About the first, this homogeneity of population is regarded as a theoretical abstraction, purposeful to a comparative analysis of several countries.

As with regard to the second assumption, this has been addressed by giving a superficial account of concomitants factors, such as differences between lifestyles or environment. It is not excluded that other factors could be individuated (ex.: genetics) but they were not considered purposeful to this thesis aim.

Some focus areas were identified: the development of national nutritional guidelines, their framing within a national context and to which extent do cultural factors influence the development and implementation process. To better highlight the impact of cultural elements, it was chosen a comparison of two radically cultural different countries through the presentation of a case- study.

It was made a strategic choice to select school-meals as the case in question.

Up to date, a relevant amount of literature exists showing the impact of school-meals as a mean for perpetuating national dietary habits. (Levine 2010; HPB 2012)

In order to illustrate the school-meals structure and impacts, it was decided to narrow down the research to comprehend only the municipalities, one for each country.

In both countries, the choice fell on the two capitals.

Main criteria lying behind this choice were the following:

- a) Capital cities are usually looked at as flagships of a nation;

- b) the assumption that capitals are often confronted by the same kind of challenges, such as immigration-flows, even if in different proportions;
- c) when a policy has to be tested and implemented, this could easily be done in the capital;
- d) due to author's personal knowledge of both cities, it was easier to get information within those systems;

Furthermore, while analysing the Italian school-meals case of the city of Rome, two different schemes were encountered: the one of *autogestione* and the one of *appalto*. (for the definitions, see pg. 6.2.5.)

In order to check for eventual bias due to the different organizational scheme opted for, one example was taken from them both and the menus offered for each option were then compared.

To reach out for further explanations not available online, some telephone interviews were also conducted.

5.2 Data collection

National nutritional policies were first identified, and analysed, to figure out what they were based on. Then, a literature research of studies of effects of such policies was undertaken, checking for disease prevalence. In order to grasp the effectiveness of such strategies, two strategies were chosen: to select one case- study (school meals) and to confront national surveys on populations' food habits with guidelines' contents. Collective data have been used.

It was considered purposeful to cover a time span of 10 years, selecting the most recent guidelines and surveys which would date back to 2005.

Several documents were analyzed:

- 1) national nutrition guidelines
- 2) surveys on diets and researches on consumers' behavior
- 3) research papers and analysis of dietary patterns

5.2.1 National nutrition guidelines

Considered to be the core of national nutrition policies, governmental-endorsed guidelines and recommendations were the natural starting point of the analysis here undertaken. Results of the literature research gave 2 documents which were relevant for the Norwegian case, and one for the Italian case. Those documents were:

Table 2.0.: Government documents on Nutritional Guidelines

Country	Databases Enquired	Search Terms	Documents Selected	Governmental Institution	Year of release
Norway	Google scholar	Nutritional guidelines	Anbefalinger om kosthold, ernæring og fysisk aktivitet <i>(Recommendations on diet, nutrition and physical activity)</i>	Health Directorate	2014a
	WHO	National Dietary advices	Helsedirektorates kostråd <i>(Directorate of health dietary advices)</i>		2015a
Italy	Google scholar WHO	Nutritional guidelines National dietary advices	Linee Guida per una sana alimentazione italiana <i>(Guidelines for a healthy italian diet)</i>	INRAN	

The documents selected were two for Norway and one for Italy. This is due to the type of information contained in those documents. The Italian guidelines contain both food-based dietary advices, as well as indications on amount and proportion of different groups of nutrients. In the Norwegian case, the same type of information was split in two documents: the first one (Health Directorate 2014a) dealt with suggestions on proportions of nutrients, while the second one (Health Directorate 2015a) addressed the food-based dietary advices. To make a complete comparison, both documents were considered necessary.

5.2.2 Surveys and researches on food habits

In Norway, several surveys and researches have been carried out under the supervision of the Directorate for Health. Among those, the “Development of Norwegian dietary patterns” (2015), as well as the Norkost 2010-11 and some consumer’s researches made up for the base of the Directorate reports, were fundamental to this thesis. (Norkost 2010-11, Statistisk Sentralbyrås forbruksundersøkelser 2011-2012).

With regard to Italy, the main source of information was the “National Survey on Italians food consumption” (*Indagine nazionale sui consumi alimentari in Italia*”, INRAN-SCAI 2005-06) by the Italian National Institute of food research (INRAN) now CREA (see section 2.1.2 of the current thesis). Even if documents of both countries contain information also on special population groups - elderly, pregnant or breast-feeding women, and infants – it was regarded most purposeful to this thesis to consider only the data on the adult population. Adult population is defined as healthy men and women between 16 and 79 years old. Such groups constitute the explicit target of guidelines and interventions addressed.

Tab. 2.1.: Surveys and researches on food habits

Country	Databases Enquired	Search Terms	Documents Selected	Governmental Institution	Year of release
Norway	Directorate of Health WHO Google scholar	Norwegian*population diet*or*dietary*pattern* eating*habits eating*trend	<i>Utvikling av norske kosthold</i> <i>Små grep, stor forskjell</i>	Health Directorate	2015
Italy	Google scholar WHO CREA (INRAN)	Nutritional guidelines National dietary advices	Linee Guida per una sana alimentazione italiana <i>(Guidelines for a healthy italian diet)</i>	INRAN	2003

5.2.3 Research papers and analysis of dietary patterns

Next to the government- endorsed documents cited above, a literature review was undertaken, to gain farther knowledge of the topic.

Main focus of this research was try to identify if similar kind of studies had been undertaken earlier and how those findings had been interpreted.

Different kinds of databases, meaningful to this research, were queried, as well as some grey literature sources.

The selected articles were then evaluated according to the following criteria: date of publication, degree of generalization and pertinence to nutrition as an instrument to preventive care and nutrition policy impact on population behavior.

Primary databases queried were, using index terms or free text, PubMed, McMaster PLUS, OvidMedline, Cochrane Library.

Search terms included: nutrition guidelines, nutritional guidelines, Italian nutrition guidelines, Norwegian nutrition guidelines, healthy eating + Norway/Italy.

In front of several results, the research was utterly limited based on the abstract displayed. Particular consideration was given to systematic reviews and reviews when available. Reviews and articles were graded by author using their pertinence and applicability to the topic.

Any search term has been proved out for each one of the databases. When the research didn't produce any satisfactory result, the terms were changed, until interesting results were retrieved.

Following, an example of how the research process was carried on: the table shows some of the researches which gave fruits. If a research term produced results in one database, but no in the other, the negative result it's implicit and not reported here. That the search gave no result it's implicit in the change of research terms.

The articles are reported by surname of the first author/ first 3 authors. The complete reference is reported at the end of this paper.

Tab. 2.2: Literature review: example of the selection process

Databases Enquired	Search Terms	Documents Selected	Author/Institution	Year of release
WHO	Norway*or Norwegian*population diet*or*dietary*pattern*	<i>Food consumption trend and drivers</i>	Kearney, John	2010
FAO			Lacirignola, C.	2015
PubMed	eating*habits	<i>Mediterranean food consumption patterns</i>		
Cochrane Library	eating*trend food*consumption		Bendich, A.	2005
Google scholar	food*health (health or healthcare) * prevention (or promotion)	<i>Preventive nutrition: a comprehensive guide for health professional</i>		
Ovid Medline	Italy*or Italian*population diet*or*dietary*pattern*	<i>'Mediterranean' dietary pattern for the primary prevention of cardiovascular disease</i>	Rees, K.	2013
	eating*habits		Amilien, V.	2013
	eating*trend food*consumption	<i>Thoughts about food culture and patterns of eating in Norway</i>	Kjærnes, U.	2001
	food*health (health or healthcare) * prevention (or promotion)	<i>Eating Patterns- A day in the lives of Nordic Peoples</i>		

5.2.4 Data used in the school-meal study

Additionally, a case- study was selected: how school meals are organized in both countries within the primary school setting. The choice of the topic relied both on a theoretical assumption, that the school meals would reflect national food traditions, supported by different literature (Levine

2010; HPB 2012), as well as on some empirical observations. Sources of data were: historical documents, official regional and municipal regulations. A sample of menus from the municipal Nutritionist's office as well as one from a catering company was also consulted.

Tab.2.3: Literature research for the case-study

Databases Enquired	Country	Search Terms	Documents Selected	Author/Institution	Year of release
PubMed Cochrane Library	Norway	School meals*food*menu	<i>Mat og måltider I grunnskolen. En kvantitativ landsdekkende undersøkelse.</i>	Directorate of Health	2013
Google scholar		History*school*meal or*food*	<i>Matpakkens historie</i>	Opplysningskontoret for meieriprodukter	2010
WHO Ovid Medline	Italy	School*food or meal*health*	<i>Storia della mensa scolastica</i>	ASL-Mi	2013
		Promotion*or prevention*	<i>Storia refezione scolastica</i>	Cerea, A.	1912
			<i>Strategia nazionale frutta nelle scuole A.S.2014-2015</i>	MIPAAF	2009

5.3 Study limitations and exclusion criteria

This report is based largely on those governmental guidelines, endorsed by each government and available online until January 2016. Consequently, everything published after that day is not included in this study.

Several difficulties were encountered. One major challenge was constituted by the difficulty to penetrate the Italian system, together with the lack of exhaustive reference lists on the governmental online publications, set inevitably limitations to this thesis.

Those articles which explicitly addressed specific target groups (such as children, infants, elderly) specific nutrients (as Omega 3, vitamin D) or medical conditions (such as mitochondrial disorders, cystic fibrosis, kidney disorders) were excluded from this study. Furthermore, articles published before 1990 were judged outdated and thus not included. However, historical documents or laws did not undergo the same criteria and were included, like the History of School Meals (Cerea 1912). Studies and data related to alcohol consume were left outside, as this is omitted in the Norwegian guidelines. Finally, availability of full articles constituted an inevitable limitation.

Any study and summary of evidences necessarily implies a choice about what to include, what to exclude, how to estimate the quality of the findings and how to interpret it.

While attempting to be as explicit and transparent as possible in my choices, this study would necessarily include some personal judgements or underlying assumptions.

6 Food and nutrition policies

Both countries under consideration use a broad set of interventions to achieve nutritional goals. This section will dwell upon such strategies and interventions.

6.1 Governmental strategies for preventive care

The WHO's approach to nutritional NCD improvements emphasizes that the combination of a diet rich in fats, sugars and energy density, together with physical inactivity has proven to have a dramatic impact on the increase of NCDs within "Western" countries. (WHO 2013a)

The ministry of Health of each European country should address the problem through several channels, using both political and non-political tools. The strategies should include the translation of nutritional guidelines into food-based guidelines; the development of posters, guides and digital materials, to be spread through television, radio, internet and other suitable platforms.

Governments should develop overarching, public policies, including the nutritional dimensions also within other sectors, supporting the development of healthier environments and physical activities.

The main aims of such campaigns should be to assist consumers to make rational food choices, while taking in account also cultural background, environmental issues and socio-economic status of individuals. (WHO 2003a)

To the purpose of this thesis, 4 main types of strategies were identified:

- a) law/ regulations
- b) organization/administration
- c) economic/ finance
- d) education/ health promotion

While the firsts three types are mainly addressing the same target group (adults), the last one (educative) is farther divided into two categories, according to the target group considered (adult/children).

The purpose of this section is to define which type of interventions the two governments have developed to address nutrition as a preventive care.

6.1.1 Norway

Norway adopts several strategies to cope with the increasingly insurgence of chronic, lifestyle related diseases. Health authorities, identified on a national level with the Health Ministry, Health Directorate, the Public Health Institute, are working closely with each other as well with regional and local authorities, to carry out effective strategies to best respond to this demand. The chosen approach is multi-sectorial and (“Health in all policies”) has led to a tighter collaboration with the industrial and the tertiary sector as well.

The following list comprehends a set of strategies of political, administrative, educational and economic nature. Those strategies have been ordered according to the scope of the impact they are designed to have, from the most general to the most local ones.

- a) **Global Action Plan:** Internationally, has Norway adhered to the *Global Action Plan for the Prevention and control of NCDs*, developed by the WHO Secretariat. The plan focuses on prevention and control of especially 4 types of non-communicable diseases (cardiovascular diseases, cancer, chronic respiratory diseases and diabetes) for the timespan 2013–2020. It is based upon what has already been achieved through the implementation of the 2008–2013 action plan. The plan aims to operationalize the commitments of the Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-Communicable Diseases. The plan provides the member states and other stakeholders with a set of policy tools, apt to design coordinated and coherent action at any policy level to properly address the global targets, identified by the World Health Assembly in resolution WHA64.11. 3. Adhesion to the Plan gave political substructure to preventive health strategies and brought NCDs higher on the national agenda. The international agreement was subsequently “translated” and operationalized within the Norwegian context, explicitly through the “Nordic action plan for better health and quality of life, through nutrition and physical activity. (Helsedirektoratet 2015)

b) Norwegian Guidelines on diet, nutrition and physical activity: The “Norwegian Guidelines on diet, nutrition and physical activity” published in 2014 by the Norwegian Directorate of Health, were the result of the work of an international committee launched by the Nordic Council of Ministers. This is the official inter-parliamentary body of the Nordic region and was established in 1952 and has to be seen as a part of a broader project of cooperation among the Nordic European states.

Within the document of 2014, two broad researches were merged together: the “Nordic Nutrition Recommendations” (2012), produced by the Norwegian Nutrition Council in 2011, and the “Food-based dietary guidelines for public health promotion and prevention of chronic disease” also produced by the same institution.

c) The “Salt Partnership”: in June 2014, several concerns and interest groups signed a letters of intent where they committed to cooperate to reduce the salt intake of the Norwegian population, under the guidance of Norwegian health authorities. The goal is to achieve 15% of reduction of salt intake within the end of the 2018. The final goal is to achieve a reduction of 30% of the total intake within the 2025. (NHO) Right before Christmas 2015, the Norwegian health minister has launched a similar initiative to reduce sale and intake of saturated **fats**. (Aftenposten 2015)

d) Restriction on food-marketing: during spring 2013, a common agreement between the industrial sector and the government led to the developing of a new and better regulatory system on advertisement of unhealthy food and drinks towards children. Also **product placement** of several categories of products has been revisited (removing the snacks-shelf from the cashier-side to a more internal part of the shop).

e) Nøkkelhullet: The «Keyhole label» is a non-compulsive labelling system. The purpose of the label is to draw the attention of consumers towards those products which are considered to be healthier within each food category. By “healthier” is meant those products which contains less fats, salt, sugar and a higher amount of fibers, compared to other products of the same type. The label is posed on fresh fish, vegetables and processed foods. This system was firstly developed in Sweden. In Norway, the Directorate of Health and the National Food Security Council are behind this label. (Helsedirektoratet 2015)

- f) **The Food Portal:** (*Matportalen*) the website matportalen.no provides consumer with the latest information, from public health authorities, on food safety and quality. It's a collaboration among several institutions, from the Food Safety Authority and the Public Health Institute, to the Norwegian radiation protection authority.

- g) **Nutrition Prize:** The price is given each year to someone who has done an outstanding work in order to promote good, healthy food habits among a local community (kindergardens, school, health centres, hospitals, etc.)

- h) **School-fruit:** The "school fruit" program is a national program which attempt to increase fruit and vegetable consumption among children and adolescents. The program, to be implemented on a municipal level, is subsidized by the Norwegian Directorate of Health, to sponsor schools to sell fruits to children at a low price (Skolefrukt 2015). Another strategy, close to the school-fruit, is the **school milk** program, a volunteer program for all Norwegians schools to give children milk through the school day. Parents order and pay the milk online, through an online ordering scheme, and the school are responsible of granting that the children receive it during the school day. (Skolemilk 2015)

- i) **Healthy-lifestyle centres:** (*Frisklivssentralen*) The «Healthy- life centres» are healthcare service structures delivering both expertise and support to lifestyle's changes, such as quit smoking, increase physical activity, healthier eating habits, and so on. This kind of institution is implemented on a municipal level, taking on different organizational models: public-public or public private partnerships, or inter-municipalities collaborations. It targets those population groups at risk of lifestyle-related diseases. If referred by a general practitioner (GP) patients need to pay only a small amount out of pocket (Helsedirektoratet 2013a).

Following the division of strategies by type, Norway shows a clear preference for the first type identified of strategies.

Tab. 3.0: Strategies divided by type – Norway

Type	Strategy
Law/ Regulations	Global Action plan Restrictions on food marketing Salt partnership (Fat partnership)
Administration/ Organization	Healthy centres National nutrition guidelines Key-hole label
Economic/Finance	School fruit & School milk Nutrition prize
Education/Health promotion	National food campaigns

6.1.2 Italy

Italy has designed and adopted different strategies during the years, to approach the problem from various points of view. Both the Ministry of Agriculture, Food and Forestry (Min.FAA), or the Ministry for Health (Min.Sal.) together with other national institutions, have outlined such strategies to be interpreted and carried out to different policy sublevels. Population epidemiologic data show remarkable regional differences, with a higher prevalence of obesity/ overweight in the Southern regions (De Santi 2009).

The following list comprehends a set of strategies of both political, administrative, educational and economic nature. Those strategies have been ordered according to the scope of the impact they are designed to have, from the most general to the most local ones.

- a) **Global Action Plan:** also Italy adhered to the *Global Action Plan for the Prevention and control of NCDs*, developed by the WHO Secretariat, for the timespan 2013–2020. Adhesion to

the Plan gave political substructure to preventive health strategies and brought NCDs higher on the national agenda. The international agreement was subsequently “translated” and operationalized within the Italian context.

- b) **National campaigns:** under the direct administration of the Ministry of Agriculture, Food and Forestry Policies (Min.AAF.) the CREA or sometimes the ISS, this type of campaign aims to promote a healthy diet and physical activity. Main tools of such campaigns are mass media such as television commercial and the diffusion of posters strategically placed in cities. Recent campaigns were “Eat well, live Better” (from the Italian “**Mangia sano e vivi meglio**” author’s own translation), contextual to the Expo 2015. (Min.AAF. 2015)
- c) **Limitations on food-marketing:** as a part of the Minsiterial driven campaign “Gaining Health: make health an easier choice” (from the Italian “**Guadagnare salute: rendere facili le scelte salutari**”, author’s own translation) a formal agreement has been signed by several industrial actors where they agree on the role which food-marketing can play among toddlers and young children, in the choice of lifestyles. The signatories undertaken to proactively encourage healthier choices, while adhering to a self- regulated codex for marketing restrictions. (Min.sal.2015)
- d) **Italian Guidelines on diet, nutrition and physical activity:** The “Guidelines for a right and healthy Italian nutrition” published in 2003 by the INRAN (since 2012 merged in the CREA), then updated until January 2013, were the result of the work of a national experts group. (INRAN 2003)
- e) **Health Houses:** (*Case della Salute*) in 2007 the MoS initiated a national program to move health care services closer to patients. As a part of this program, it was agreed upon the creation of several Health centers, each meant to adjust to the specific needs of local demography. Aim of these centres is to grant the continuity of medical assistance, thus lifting some of the pressure on public hospitals (especially emergency units), while centralizing the local work on health promotion and prevention. (MDS 2008) Variation of organizational structure within the Health houses does not allow establishing a general rule: some of the services provided are for free and do not require any previous prescription by the GP. However, for some other services this might be required, and a certain out-of-pocket amount may be charged directly to the patient. (Min.Sal. 2015b).

- f) **National School campaigns:** The Min.AAF has launched several campaigns to be carried out within school settings, such as the marking of “World Food Day”; the National Program “School and Food”, which aims to bring the teaching of nutrition’s fundamentals to all school levels. (Min.AAF 2009)

- g) **School fruit & Collateral Measures:** The EU-program “School fruit” introduced in 2009 aims to promote fruits and vegetables consumption among children between 6 and 11 years old. In order to increase fruits’ consumption, the program states the distribution of a dose of fruit to each student, in substitution of the middle-day break. (**see chapt.5 on school-meals structure*) The program is under the overall direction of the Ministry of agriculture, nutrition and forestry. The **Collateral Measures** (*Misure di accompagnamento – MA*) comprehend a set of actions aim to sensitize and strengthen the interest on the topic. Such actions and strategies are specifically developed by an office internal to the ASL to address one particular target. (Min.AAF. 2009)

- h) **Regional or Local school campaigns:** *directly targeting children-* Visits to educational farms, educational workshops, creation of school vegetable- gardens, Writing or Drawing competitions; *targeting parents and teachers* – training sessions and seminars for professionals and parents; *targeting children through teachers* – implementing nutrition education programs.

- i) **Seminars, workshops, projects:** The CREA has launched a series of workshops and seminars, alongside with other publications, to regularly update information given to professionals and public, also in form of visuals, to be distributed through several channels (Hospital Agencies, Health counselling offices and schools).

During 2015, Italy has strengthened interest about nutrition and food policies, due to the world exhibition, EXPO- 2015, set in Milan, which had Food and Nutrition as its main topics.

Following the division by type earlier suggested, Italy shows a clear preference for the last type of strategies.

Tab. 3.1: Strategies divided by type – Italy

Type	Strategy
Law/ Regulations	Global Action plan Limitations on food marketing
Administration/ Organization	Healthy centres Nutritional guidelines
Economic/Finance	School fruit Nutrition prize
Education/Health promotion	National campaigns National school campaigns Regional/ Local school campaigns Collateral measures Projects, seminar, workshops

6.2 Comparison of Nutrition Policies

Tab. 3.2: Comparison of nutrition policies

	Norway	Italy
National bodies	Ministry of Health and Care services Directorate of Health, Dept. for public health Norwegian Nutrition Council	Ministry for forestry, nutrition and agriculture Ministry of Health CREA (former INRAN)
Regional/ Local bodies	Regional Health Authorities Municipalities	Regional ASL Municipalities
Financing	Mix: central government transfers, local taxation, projects	Mix: communitarian subsidies to regions, ASL funding, others
Preferred type of strategies or Interventions	Law/regulations	Education/Health Promotion
Governmental involvement in people's diet	Limited. Political advice and recommendations.	High degree of involvement within children nutrition (school food). Limited on adult population.

The table presented above offers an overview on how nutrition policies are carried through within the two different national (health) systems.

As it is shown, nutrition is dislocated on several policy levels, following a similar path top-down through the system. However, two differences are worth of notice, which seem to be in contrast with each other. On one hand, the type of strategies or interventions preferred in the Norwegian system is the regulative type, which can be interpreted as the sign of a strong State, tightly involved within people's lives. Nevertheless, the degree of governmental involvement within people's dietary habits seems to be quite low. On the other hand, the Italian system, historically

characterized by a low degree of direct governmental intervention, is highly involved within population's dietary habits, through an extended school-meal program.

The strategies and interventions implemented do not differ so much among the two States. However, it is interesting to notice that one particular type of strategy seems to be preferred by each national system.

According to a leading perspective within organizational theory, which focuses on studying organizational behaviour of public organization, it is possible to identify how formal organization, institutional structures or processes become a trend, a success-story which spreads internationally. (Christensen 2010) Even if based on organizational context and time, such «success stories» or success recipes may be regarded as the systematization and conceptualization of general, timeless ideas, designed and spread by a formal group of actor.

When it comes to nutrition, the leading international actors can be divided into 2 categories: international political organization, such as the WHO, FAO, EU; and institutions for higher education and research. (Christensen 2010)

The actors mentioned above contribute to create and actively spread the trends, which can take on different forms, as set of rules or recommendations.

When analysing nutritional policies across Europe, this seems to be particularly evident. At the core of any policies rely nutritional recommendations and also the type of strategies and chosen approaches are similar. However, even if the underlying processes and the starting point are the same (the “success recipes”), the results are often quite different from one another.

This is the result of several factors, such as

- The illness picture of a population
- Economic factors (internal market) and access to food (natural resources)
- Social or socio-demographic factors
- Political culture and administrative institutions
-

6.2.1 From nutritional to food-based dietary guidelines

As mentioned in chapter 3, nutrients are a universal necessity to every living organism. The challenge which the European modern society is called upon is no longer on the access to food,

but on quantity and quality of the food intake. In order to regulate population's food intake in the best possible way, governments have been working on the development of national guidelines, which are an attempt to answer in the most complete and scientific way, how to best satisfy this basic need. These types of guidelines provide knowledge on which type of fats, proteins, carbohydrates, vitamins are necessary and in which amount. Those recommendations are of rather general nature, applicable to healthy people.

Internationally, it has been argued that the resistance of some population groups to adopt the suggestions could be due to the difficulty of "translating" them into real food. Hence, the need of food-based dietary guidelines, are more readily available in an average person's everyday life. The easiness and directness of this strategy is hoped to increase considerably the impact of national recommendations in shaping people's lifestyles.

Nutritional guidelines are based on well-established international, scientific literature and recommendations. It follows that the differences between those would not be particularly significant. However, bigger differences are expected to be found while comparing food-based-dietary-guidelines.

6.2.2 Norway

The latest version of Norwegian guidelines available online at the end of August 2015 was dated 2013. This updated version takes its place within a long Nordic tradition of national work on public health and nutrition. Those guidelines are based on the reports of 2011, by National Nutrition council (Nasjonalt råd for ernæring -NRE) and the Nordic Nutrition Recommendations 2012. (Health Directorate 2011)

The guidelines are based on systematic overview over the available researches on the topic and on evidence-based knowledge. The primary intended audience for dietary recommendations is the healthy adult population.

The guidelines are divided in 2 main parts: the first one deals with general recommendations of food intake and promote physical activity, while the second one takes a closer look to the intake of macro-nutrients, alcohol and salt.

Compared to the earlier versions, this new document enhances the importance of looking at food intake throughout one day as a whole process, not focusing on the single calories amount of the single meal. Special attention is also given to fats intake.

The style in which guidelines are written is very sober and matter-of-fact stressing the scientific foundations of what is reported. The intended recipient are those professions actively involved in nutrition-related activities within the health sector, rather than the general public.

The two key messages in evidence are to widen the diet and to always keep the balance between food intake and energy consume.

For the first time the Norwegian guidelines dedicate some paragraphs to physical activity also.

Attention is also drawn to food-waste and the climate dimension of the food debate.

Other key messages are as follows:

- Have a varied diet with plenty of vegetables, fruit and berries, wholegrain products and fish, and limited amounts of processed meat, red meat, salt and sugar.
- Eat at least five portions of vegetables, fruits and berries each day.
- Eat wholegrain products every day.
- Eat fish for dinner two to three times a week. Fish is also a great filling in sandwiches.
- Choose lean meat and lean meat products. Limit the amount of processed meat and red meat you consume.
- Include lean dairy products as part of your daily diet.
- Choose cooking oils, liquid margarine and soft margarine over hard margarine and butter.
- Choose foods with low salt content and limit the use of salt when preparing food.
- Limit your consumption of foods and drink with a high sugar content.
- Choose water as a thirst quencher.

(Health Directorate 2015a)

6.2.3 Italy

At the moment of writing, the latest version of Italian guidelines available online is the one from the 2003 revision. This updated version is strongly linked to the earlier versions of “Guidelines for healthy Italian food habits” (“Linee guida per una sana alimentazione italiana” author’s own translation) from 1986 and 1997. The guidelines are based on scientific research and report

undertaken by the former National Institute for Food and Nutrition Research (INRAN), today a part of the National Council for Agricultural Research and Economics (CREA).

The guidelines are divided in 10 chapters, spanning from a general introduction to BMI and bodyweight (chapt.1) to food safety (chapt.10) and special recommendations for specific target groups, such as pregnant women, toddlers, children, youth and elderly (chapt. 9). The last two chapters represent the newest introduction to the former versions. Each chapter is held short and is concluded by a brief summary of chapter' contents. The Italian guidelines are intended for the average consumer, hence the style is light and informative.

One peculiarity of the Italian guidelines is the particular attention given to tradition: in several places there is a reminder of the “Mediterranean diet” and an incentive to go back to a more traditional way of life, considered to be healthier. Seasonal and local food receive also particular attention, addressing implicitly the climate debate in this way. An emphasis is put on size of portion, meal composition and food safety.

The two key messages in evidence are to widen the diet and to always keep the balance between food intake and energy consume.

For the first time the Italian guidelines dedicate some paragraphs to physical activity also.

Two new dimensions are now added to the food debate: waste and pollution.

The key messages within the guidelines are as follows:

- Watch your weight and be active
- More cereals, vegetables, tubers and fruit
- Fat – choose quality and limit the amount
- Sugars, sweets, sweet drinks – just the right amount
- Drink plenty of water everyday
- Salt? Better if little
- Alcoholic drinks – only if in limited amounts
- Make varied choices
- Special advice for special people
- The safety of your food depends also on you

(INRAN 2006)

6.2.4 Comparison of guidelines contents

Tab. 3.3: Comparison of nutritional guidelines: overview

	Norway	Italy
Development of guidelines	Based on international research and collaborative Scandinavian research	National Institute s own research
Nutritional Responsibility	Individual Family-centred	Individual Family-centred
Key contents	<p>Vary the diet and keep balance between food intake and physical activity</p> <p>Increase vegetable and wholegrains intake</p> <p>Limit intake of fats and processed food</p> <p>Climate concern explicitly address in relation to food production and waste</p>	<p>Vary the diet and keep balance between food intake and physical activity</p> <p>Increase vegetable and wholegrains intake</p> <p>Limit intake of fats and processed food</p> <p>Traditions Seasonality Local food</p> <p>Portions (of each meal) Food combination Food safety</p>
Key nutrients targeted	Fats Salt (Sugar)	Fats Salt Sugar
Areas not addressed	Communication strategies Local food Traditions Food safety	Communication strategies Climate crisis

Both countries' guidelines seem to follow WHO's recommendations to target (and reduce) fats, salt and sugar consumption on a population level. However, the Norwegian guidelines focus prominently on fats and salt intake, which are presented as particularly challenging, leaving intake of free sugars as a secondary target. This seems particularly relevant when aligned with the amount of free sugars Norwegians seem to consume in one year, just from sodas or candies (Helsedirektoratet 2015b). Possible reasons for that could be various: on one hand, this could be a consequence of a "westernized" way of eating (NRE 2011). On the other, this may as well be a reflection of Norway still adhering to a traditional Nordic way of eating, characterized by a considerable amount of dairy products and preserved (hence, salted/sugared) food.

Norwegian guidelines do not put a strong emphasis on culinary heritage, while Italian guidelines do explicitly address the topic of tradition, highlighting how the Italian diet has moved away from the traditional Mediterranean diet. (INRAN 2006)

Within the Norwegian recommendations, particular attention is given to meat consumption, exerting to limit its intake and to choose leaner kind of meat or way to cook it. The Italian guidelines don't focus particularly on this subject. This does not come as a surprise, since Italians seem to eat meat less than twice a week. (CENSIS 2011)

The Italian guidelines present a holistic point of view, covering several dimensions to food, such as its seasonality or closeness of production. The climate debate is also implicitly addressed. On the other hand, Norwegian guidelines address the climate-dimension of food explicitly, in relation to food production and food waste.

Other aspects such as the size of portion, meal composition and food safety are also particularly emphasized within the Italian context.

The concept of "portion" is very difficult to settle, because of the large variety among different gastronomic traditions, both within and outside one country. Within the Italian recommendations, the concept spoken of is intended as the average quantity, measured in grams, consumed on average by the average Italian adult, men and women. It is considered to make up a portion the following: pasta or rice=80 g, potatoes= 200 g, bread=1 slice (50 g). (INRAN 2006)

Here again, the different way of eating shines clearly through: Italian portions are small, because the food is considered combined with other food groups. A special case is the one of bread, which in Italy is considered to be only a supplement to the "real meal", almost superfluous. In Norway, on the other hand, it constitutes the main element of several meals. Norwegians

guidelines do not speak of “portion” in the same way, but rather suggest a maximum quantity which should be consumed of one particular food pr. week.

6.3 Contents and structure of everyday meals

The author follows the national guidelines of both countries, by defining the different “eating moments” by the time they are taking place. This division could reveal itself to be inaccurate, with a gap between the Norwegian and the Italian dinner not corresponding in time. Still, it seems to be the most useful to the aim of this thesis.

The meals identified by the guidelines are then so understood: breakfast is the first meal of the day, eaten within 3 hours by the individual has woken up. Then there is “lunch” which constitutes the second meal of the day, of a certain importance regarding nutrients intake. When considering just “proper meals” we move then directly to “dinner”, which has to be a complete meal, consumed later in the day. Within the Norwegian setting, we also have “evening meal” (*kveldsmat* in Norwegian) which is regarded as a proper meal in Norway, but doesn’t fully correspond to any other meal in Italy.

A “warm” meal is here defined as a cooked meal, consumed warm, while a “cold” meal doesn’t involve cooking or heating, and usually corresponds to a salad or sandwiches.

A “snack” is hereby defined as a tiny meal, of no particular consequence regarding both nutrients intake or the time-frame requested (of both eating and preparing).

6.3.1 Norway

Tab. 3.4.: Norwegian Food Habits

Meals	Norway
Breakfast	<p>Open-face sandwiches, butter, cheese, spreads, processed meat or fish</p> <p>Alternatively, crackers (<i>knekkebrød</i>)</p> <p>Oat porridge</p> <p>Dairy products</p> <p>Coffee or Tea</p> <p>High milk consumption</p> <p>Juice</p> <p><i>Often consumed alone</i></p>
Lunch	<p>Open- face sandwiches or crackers</p> <p>Salads</p> <p>Leftovers from day before</p> <p><i>Consumed at working place</i></p>
Snack	<p>Breakfast blends</p> <p>Dairy products</p> <p>Pastries</p> <p>Fruits</p> <p>Chocolate bars/flapjacks</p> <p>Nut bars, nuts, dried fruits and berries</p>
Dinner	<p><i>Quick & easy</i> warm meal: potatoes, rice, pasta, bread-like products (wraps, tortillas, tacos, flatbread);</p> <p>served with meat, fish, dairy products;</p> <p>topped with sauces or dressings.</p>
Snack	<p>Breakfast- blend</p> <p>Open-face sandwiches</p> <p>Dairies (milk, yogurt)</p>

Based on Helsedirektoratet (2015) *Amilien* (2013) *Norkost*(1997)

According to the Survey on Nordic eating habits, of 1997, the structure still regulating meals in Norway is the traditional one of 3 -4 main meals, of which only one to be “warm” and two “snacks”. (Norkostundersøkelsen 1997) Another survey from 2000 showed that the average Norwegian would eat 3,7 meals on a working day, and fewer in the weekend. (Amilien 2013)

To eat a proper breakfast is strongly recommended national hold it is strongly recommended and a quite spread habit. A typical Norwegian breakfast is made up by two slices of buttered bread, topped with cheese, ham, liver-paste, fish spread or brown cheese. (Kjærnes 2001) Breakfast, when consumed, is consumed alone and often on a rush.

Lunch is often eaten at the working place, wherein the “*matpakke*” tradition is perpetrated. This is usually a social moment when different colleagues gather together to eat. The length of the break is usually 30 minutes, even if some variations can occur. (Kjærnes 2001)

Dinner is the only “warm” meal of the day. It is made up of one main course, accompanied by potatoes, rice, vegetables or other side dishes *on the same plate*. It’s usually consumed within the family, but this is not necessary. Being in the afternoon, several activities may take place afterwards, contributing to render it brief. Norwegian families seems to put more time and care in weekend’s meals, which seem to be fewer, but richer and longer. (Amilien 2013)

It seems also notable to underline the role of the habit of eating on the day before, depicting a simple and modest food culture.

Eating out doesn’t seem to be a dominant habit in Norway (Amilien 2013), even if the slowly delaying of dinner time might be changing this trend.

Since the study on eating habits was carried out, there have been some changes within the Norwegian meal pattern. More recent data were retrieved from the Norwegian Health Directorate, to uncover new developments and trends. (Health Directorate 2015c)

The differences identified point more to a change from energy-density of foods consumed rather than a variation of food choice. Milk covers still an important role within the Norwegian diet, predominantly among children and elderly. The total milk consumption has lowered over the years, especially between 2004 and 2014. According to the last results published by the Norwegian Health Directorate, there has been a shift, since 2004, from whole milk products, to

lean milk types. On the other hand, there has been an increasing consumption of fat cheese types, cream, butter and dairy products. (Health Directorate 2015c)

6.3.2 Italy

Tab. 3.5: Italian Food Habits

Meals	Italy
Breakfast	Coffee or Tea Milk Juice Cornetto (or other pastries) Biscuits Breakfast blends Bread slice with butter and jam Yogurt
Snack	Fruit Biscuits Crackers Pizza slice
Lunch (2 or 3- courses)	Warm meal: Pasta,pane,riso, pizza Legumes Meat, Fish, Eggs, Cheese Different kind of vegetables (raw or cooked)
Snack	Fruits Biscuits or pastries (or ice-cream in summer season) Crackers Pizza slice
Dinner (2 or 3-courses)	Warm meal: Pasta, pane, rice, pizza Meat, fish, eggs, cheese Different kind of vegetables (cooked or raw) Legumes

(Based on CENSIS (2011))

As it can be seen from the document, the structure still regulating meals in Italy is the traditional one of 3 main meals, of which two are considered to be “warm meals”, and 2 possible snacks. (Turrini 2001)

Eating out is a common habit, due to the structure and length of the working day.

From national hold it is strongly recommended to have a proper breakfast. Nevertheless, breakfast in Italy is traditionally considered to be a “small, sweet meal”, consumed mostly by children. (Turrini 2001)

Large portions of the adult population (incl. young adults) usually skip this meal, or have only a “quick cup of coffee/cappuccino”. Only in Northern regions the habit of eating a “salty breakfast” consistent of cheese and ham, seems to be more spread. (CENSIS 2011)

Lunch is often eaten at the working place: several work places provide the employee of a canteen service; otherwise, they’ll give the employers the possibility to get out for their lunch break. The lunch is made up by 2 or 3 courses, usually 1 of carbohydrates and 1 of vegetables, sometimes accompanied by protein-rich foods, such as fish or meat. (CENSIS 2011) The length of the break is variable, but is comprehended between 30 min. and 1 hour.

Dinner is the most important meal and an important social happening as well. Italian families gather around the dinner table and spend long time eating together. Dinner is usually made up of several courses, up to 5, which contribute to extend dinner’s duration.

The last consumer survey shows the development of new trends within the Italian meal pattern. Besides from the traditional dietary pattern, the new trends point in the direction of a “food polytheism” and an increasing “subjectivity of food choice”, regardless of any “pre-established dietary patterns” or “food taboos” (CENSIS 2011). There is also a particular attention to sustainable quality and local products.

Recent data, collected by the Italian Centre for Social Research (Centro Studi Investimenti Sociali – CENSIS), shows that vegetables and fruits figure 5 out of 7 times on both lunch and dinner table, while fish or meat 2 out of 7. The consumption of traditional Italian meals, such as pasta and rice, has lowered: pasta is now present only 4.6 out of 7 times for lunch, and 2.5 out of 7 for dinner. (CENSIS 2011)

6.4 Comparison of contents and structure of everyday meals

Tab. 3.6: Comparison of contents & structures of everyday meals

	Norway	Italy
Breakfast	1. meal, between 06.00 and 10.00	1.meal, between 06.00 and 11.00
Snack		1. meal, between 11.00 and 13.00
Lunch	2. mellom 11 og 13	3.meal, 12.00-15.00
Snack	3. Meal, 13.00-17.00	4.meal,15.00-18.00
Dinner	4. Meal, between 16 and 19	5.meal, 19.00 – 22.00
Snack	5. Meal, after 18.00	

When comparing two countries, there are always methodological challenges in confronting *what* people are actually eating. This is due to several factors, hereby divided within two categories: a structural and a normative one. The first one addresses some technical problems, related to data collection and analysis, which relies on different analytical methods and coding. The second focuses on substantial differences among cultural norms, which are at the ground of some key concepts, such as “breakfast”, “meal” versus “snack” or “proper eating”. A perfect illustration of this phenomenon relies in the quite peculiar relationship which Norwegians have to sandwiches. While in most part of Europe are sandwiches seen as a “snack” to be consumed “on the move”, and considered to be quite the opposite of a meal, in Norway they are regarded as a proper meal. At the same time, no Norwegians would ever consider 4 or 5 small biscuits as an actual breakfast,

nor a *cornetto* (the Italian kind of croissant) washed down by a cup of coffee. So comparing a Norwegian and an Italian “lunch” would necessarily mean to compare a sandwich to a hot meal.

Both countries show a combination of modern and traditional elements, even if in different areas.

By the wording “meals” or “proper meals” are intended such eating moments of a certain importance, both for nutrients intake and the time-frame they request (of both eating and preparing).

The meals identified by the guidelines are then so understood: breakfast is the first meal of the day, eaten within 3 hours by the individual has woken up. Then there is “lunch” which constitutes the second meal of the day, of a certain importance regarding nutrients intake. When considering just “proper meals” we move then directly to “dinner”, which has to be a complete meal, consumed later in the day. Within the Norwegian setting, we also have “evening meal” (*kveldsmat* in Norwegian) which is regarded as a proper meal in Norway, but doesn’t fully correspond to any other meal in Italy.

In between those meals there is also the tendency of “snacking” in both countries. Those snack-times are not particularly addressed, for several reasons. The main one is because of the low level of self-reporting on this topic, which can be related to the fact of how a “snack” is conceptualized (being a sandwich equal to a snack in Italy, and the most common lunch in Norway for instance) and to how much cultural acceptance is there around indulging in such a threat. (Amilien 2013) In Italy, where the body pressure is explicitly high, especially on women, but not only, cultural barriers are thought to influence heavily people’s self-report of food-intake.

After a careful reading of the two documents, some differences shine clearly through the comparison. Those differences can be related to:

- a) meal structure
- b) type of food
- c) type of nutrients

There is a general understanding that a healthy diet should include both the right amount and type of nutrients and a structured and regular meals pattern. Meals- and dietary patterns are often geographically and economically determined, giving an extra challenge to any attempt to actively use nutrition as a public health strategy.

6.4.1 Meals structure

Meals structure in Norway is still adhering to the traditional way-of-eating, which includes an average of 3-4 main meals (breakfast, lunch, dinner and evening) and 2 snacks, with a slight variation on weekends habits (fewer meals). (Health Directorate 2011) Due to the modernity of these researches and surveys, there is reason to believe this assumption to be true. The case is quite the opposite in Italy: even if the guidelines are still depicting a traditional meals structure, marketing research and newspaper articles seem to point to a different direction.

However, importance of traditions regarding meals structure is perpetrated also through how the working life is organized. The division between private and public eating is primarily relevant in relation to eating within a workplace context and is highly influenced by the social structure.

In Italy, for instance, the lunch break is usually 1 hour, and it is quite common to get outside and have lunch in small cafeterias (*bar*) or restaurants. Thereafter, the largely spread and reported habit of eating out. (CENSIS 2011)

On the other hand, in Norway, lunch time is usually of ½ an hour, home- brought, to be consumed among colleagues, in a common room within the working place.

Also when it comes to dinner- hours, things seem to be changing. Even if there is no such a thing as a national statistic on modern eating habits of the average worker in any of the two countries, it is possible to make assumptions on if and how much it does vary from the “traditional” pattern.

The largest variation seems to be going on in Norway. According to the Norwegian National Centre for Statistics (Statistisk sentralbyrå) Norwegians average work week is considered to be 34,5 hours. (SSB 2015) If we consider that to be distributed over 5 working days, we get an average workday of 6.30 hours, or 5.75 hours over 6 days. Further, the statistics on “work & wage” shows that two thirds of workers do not regularly work evening. With “evening” is identified the working hours after 18.00. (SSB 2015)

The sum of these statistics suggests that the greatest portion of Norwegians could be home between 16.00 – 18.00, in time to “follow the traditions” and have an early dinner. However, it seems to be an increasing trend to skip the traditional “evening meal”. (Amilien 2013) Hence, it is likely to assume that the traditional dinner, supposedly to be between 16.00 and 17.00, has been delayed of one hour or two, and now takes place more between 18 and 19.00, becoming in this way more “Europeanized”.

In Italy, dinner time seems to be unvaried: dinner is usually consumed between 19 and 21, with regional variations (southern regions tend to eat later). (CENSIS 2011) A striking difference between the two countries relies in the social dimension of eating. For Italians, dinner time is still very family- centered: family members gather around the eating table, waiting for each other to start and to finish, talking with each other, making the meal often lasts longer than half an hour. In Norway, this doesn't seem to be the case. One possible explanation for that could be in when the dinner time is: while Norwegians would still have several hours after their dinner, filled up with duties or hobbies to attend to, for Italians the dinner would seal the end of a long day. They won't probably attend to anything else after 21.00, so they could indulge longer at the table.

Another possible explanation for this difference could rely within the religious roots which left their mark on the Norwegian culture. The Lutheran tradition, which has heavily influenced Scandinavian cultures and traditions, leaves no room for pleasure. Traces of this tradition can be found in several aspects of Norwegian culture. As far as eating habits are concerned, this leads to/highlights on food seen as a mean of survival, which should not take up much time (reserved for higher tasks). Food should be eaten, not enjoyed, and dinner preparation should take less than 20 minutes. This perspective may also explain the large consume of snacks and “on-the-move” food. (Health Directorate 2015b)

6.4.2 Kind of foods

In order to “go back to the origins”, in other words to move towards a more Mediterranean diet, Italian guidelines put a higher focus on cereals and legumes consumption, rather than on fruits and vegetables. The reasons behind this are easy understandable when reading “through the lines”: there is an underlying assumption that most Italians do consume fruit and vegetables on an daily basis. It may not be enough, but those two groups of foods are already included within Italian food habits. What, however, seems to have fallen completely out of the average food habits are legumes.

The case appears to be quite different in Norway, whereas the main focus relies on vegetables and fruits consumption, with particular attention given to berries.

As a matter of fact, the particular attention dedicated to fat fish, berries and potatoes, comes as a result of an attempt to harmonize traditional Nordic foods with the findings of international

research on healthy food. Such products are among the few self-produced on Norwegian soil. Potatoes are ranked as healthier than pasta and rice, which are both non-traditional Norwegian foods, and are recommended to be eaten cooked, rather than fried or stirred, adhering exactly to the traditional way. Such food groups as berries and potatoes, aren't given any particular attention by Italian recommendations.

In the same way, Italian guidelines focus on consumption of wholegrain pasta and rice, rather than the usual "white" ones. At the same time, Italy attempts to increase legumes consumption, of which Italy produces a wide range.

Moreover, Italian guidelines do not mention nuts, which are explicitly addressed by Norwegian guidelines and which have been gaining an increasingly positive reputation in Norway.

6.4.3 Kind of nutrients

The groups of nutrients specially targeted by the international guidelines are **fats, salt and sugar**. It is strongly recommended to limit consumption of such groups within a certain range: fats are recommended to make between 15 and 30% of the total energy intake, whereas saturated fats should make up less than 10% of that. Mentioned values have to be adjusted by age, gender and type of lifestyle.

Norwegian guidelines particularly insist on the need to limit salt, sugar and fats intake: this is repeated in 3 out of 12 chapters as a general message (chapters 1,4, 7) in 2 more for sugar alone (2, 10) salt (5,9) and in 1 more for fats (8). The Italian guidelines do not stress out this point at the same extent. A probable reason to that could again rely in traditions. The Nordic diet, in fact, employs largely those ingredients, which are fundamental, not only to everyday Norwegian cooking, but are an essential part to a wide number of ingredients, traditionally store. Drying, salting, smoking are all storage methods typical of the Norwegian dietary pattern.

Fats: As for fats, some differences between the two national recommendations were found. For the Italian guidelines, we read that fats should cover 20-25% (sedentary lifestyle) up to 35% (highly active lifestyle) of the total energy intake for an adult through 1 day. The recommended amount of fats should be composed as it follows: 7-10% by saturated fats; up to 20% of

monounsaturated fatty acids; 7% by polyunsaturated fatty acids, with an omega-6/omega-3 ratio of 5:1. (INRAN 2006) On the other hand, Norwegian guidelines recommend the total fats intake to be between 25 and 40% of total energy intake by an adult in 1 day. Of this amount, 10-20% cis-monounsaturated fatty acids, 5-10% polyunsaturated fatty acids, 3% n-3 fatty acids and less than 10% saturated fats (Health Directorate 2014a)

The Italian gastronomic tradition is based on olive oil, preferably extra-virgin, and on fresh foods. Hence, the focus of the guidelines when it comes to fats relies more on how the food should be prepared (example, it recommends a wider use of no-stick pans, microwave or steam cooking). Suggestions on preferable cooking ways are also mentioned within the Norwegian guidelines, but only regarding potatoes. (Health Directorate 2015a)

Moreover, the Italian guidelines suggested restraining the consumption of cheeses, which traditionally play an important role in Italian cooking, and eggs, to be max 4 in a week, while the Norwegian insist more on general dairies consumption (cream, sour cream, butter, whole milk) and do not limit egg-consumption.

Salt: As for limiting excessive salt intake, the biggest challenge is posed by food preservation. In fact, beside from the salt naturally contained in certain foods, or directly added while cooking, the biggest sources of salt are “hidden” and most people are unaware of them. Among those, we find breads, crackers, biscuits, alongside with processed- and ultra-processed foods, such as different type of spreads, meat, fish, or bouillon. This makes it rather difficult to control properly the total amount of salt consumed on average by an individual each day.

Sugar: Sugar is a natural part of different foods and absolutely fundamental to maintain essential body functions. A well balanced diet must therefore contain sugars. However, the amount of sugar assumed on average exceeds this need. Beside from being naturally present in fruits, vegetables, different kind of sugars are also added to several foods. Bread, pastries, pates and cereals all contain added sugar. This is partly due to prolong conservation of industrialized products and partly because, within a westernized diet, population’s taste have grown accustomed to the sweetness.

The Italian guidelines recommends that only 10-15% of the total energy amount on a daily basis should derive from sugars. Farther, they suggest that intake to come from pastries, biscuits or cakes, preferably with no cream or jam. Such sugary foods are to prefer to candies, sweets, or chocolate bars, because of the positive effect of starch within the process of sugar assumption. (INRAN 2006)

The Norwegian guidelines do not focus as much on sugar intake. When sugar is concerned, suggestions are kept general, with no expression of numerical limits. The recommendation is mainly to contain intake of sugars on an everyday basis. Implicitly, this refers to the Norwegian tradition of “Saturday’s candies”: since the early 60ies, Norwegian children have been told to wait until Saturdays for eating candies. (Tufto 2013) Despite the tradition, recent data from the Norwegian Directorate of Health show that Norwegian consumption of candies, chocolates and sugary drinks has increased – sodas contributed on average with 5,5 kg of sugar per person within 2014 (Health Directorate 2015b)

6.5 Underlying contrasts

The Norwegian diet seem to be characterized by several small meals consumed throughout the whole day, as opposed to the Italian diet, who tend to concentrate more food on fewer meals.

Even if this is considered to be rather a healthy style of eating (NNR 2012), it does not guarantee the Norwegian diet to be healthier. In fact, when it comes to food variation and quality, the Norwegian diet does seem to be less varied, rich in carbohydrates and fats, with far less vegetables and fruits than its Mediterranean counterpart. Red meat and processed foods seem to keep their predominant role in Norwegians dinner, alongside with a huge amount of sauces and dressings.

Even if there are evidences showing that Italy is going in the same direction, Italians seem to eat healthier still, with a wide variation and conspicuous use of vegetables and fruits. Their diet is also considerably poorer in fat: those, when assumed, come prevalently from olive oil, cheese and dairy products, often fresh. A fundamental role seems to be given to carbohydrates-rich foods, still mainly composed by white flour, which constitute the base of the most common type of pasta or bread. However, the carbohydrates intake is balanced by a part of vegetables and proteins. (CENSIS 2011)

Norwegians traditionally finish eating earlier, which is internationally regarded as a healthy habit, (NNR 2012) while Italians start consuming their last meal for the day between 19.00 pm (northern regions) and 21.00 (Southern regions). Some concomitant factors may be mentioned at this point, such as the social structure and the impact of climate.

Social structure is hereby defined as the sum of socio-economic factors (wages, degree of employment, women's condition) and the length of a working day.

As for the climate, Italians do adjust their diet to seasonal shifts, to a higher extent than Norwegians do (CENSIS 2011).

7 Case-study: school meals

From the list of strategies and interventions reported, it seems evident that special attention is given to children and young adult. Under a public health prospective, this target group is particularly important due to its malleability and the size of the effects achievable. This chapter will focus on school-meal program as an extensive and consolidated intervention within the nutrition field.

7.1 School meals in Norway

Speaking of prevention, there has been a clear message by the Norwegian government to focus the efforts on children. (Health Directorate 2014b)

Data on children's overweight/obesity incidence show an oscillation between 16% (2008) up to 19% (2010) then down to 16% again (2012). Data were collected through a national campaign, checking for height and weight values among 3-graders, by the Institute for Public Health (Folkehelseinstitutt; Health Directorate 2015c). Data point out regional differences as well, with a higher incidence of overweight/obesity in the Northern regions, compared to the rest of the country. (Health Directorate 2015c)

7.1.1 Shortly about the Norwegian school system

Every child who has been living in Norway for more than 3 months consecutively has the right to school. Children from 6 years old up to 15 have the right and duty to attend to compulsory school, which is free and divided into 2 cycles. The first cycle, primary school, covers from the 1st to the 7th grade, while the second, Secondary School, goes from the 8th to the 10th grade. After this, children have the right to apply for High school education, which can last up to 3 more years.

Usually, a school day starts at 08.15 and lasts until 12.50 (1st grade) or 14.30 for older classes.¹ Once a week every class is staying longer, until 15.05. After regular class, it is mandatory for every Norwegian school to offer After-school programme, with a quite various offer from school to school.

7.1.2 Eating habits in Norwegian schools

The Norwegian compulsory school doesn't provide any kind of school meals. When it comes to High School, the matter is slightly different, since high schools do have a canteen where it is possible to buy both sandwiches and, in some places, warm food too.

In Primary and Secondary school, children have one long break for eating of around 20 min. For the youngest children it lasts a bit longer, starting at 10.20 and finishing at 10.50, while for the oldest it starts at 10.30 and lasts until 10.50 (5th grade). Several actions need to be undertaken before the actual eating-phase starts (finish the lesson, stand up, take the lunch box, open it, etc.) so that the moment of actual eating is approximately of 10 minutes.

As it follows, the school-meal isn't very "structured" as if it was to take place within a specific room or following determined social norms. This seems to influence older children's behaviour, who seem to use the lunch break for spreading around in all directions. (Norsk Tidsskrift for ernæring 2011)

When the regular school day is over, the students may go to After school and join different activities. Within Oslo municipality, almost every child joins the after school programme, for a couple of hours at least. One more eating-break is included here, usually between 14.00 and 14.30 pm. The After school closes at 16.30. That has contributed to a shift forward of the traditional dinner time, from around 16.00 towards 17.00/17.30.

7.1.3 A brief history of the "matpakka"

¹ The times given are indicative, based on a sample of schools in Oslo municipality

Partly due to societal and technological reasons, and partly exacerbated by demographic changes (increased immigration's flow), the traditional Norwegian "matpakke" (lunch-box) has lately been highly questioned.

To understand where this tradition comes from and why is it so eradicated within the population, here follows a brief historical overview.

1880: The Committee for poor school-children eating (Komiteen for fattige skolebørns bespising) launched the initiative to provide poor schoolchildren a warm meal, oat porridge.

1895-96: At the end of the same century, Oslo municipality extended the initiative to include every child within the region.

1926-1932: In 1926 a book was published, which questioned the real nutritional value of this school-meal. In his book, medical doctor Carl Schiøtz argued for a shift to a cold, but nutritionally more complete meal, to be consumed earlier in the day. Started out as an experiment, the "Oslofrokosten" (Oslo breakfast), was soon extended to every school in the country. The Oslofrokosten consisted of ½ milk, 2 bread rusks with margarine, a sandwich and carrots, apples or bananas.

1930-1940: Not every municipality had the economics to sustain the Oslo breakfast. So, in 1936, another doctor, O.L. Lien introduced the idea of the "packed Oslo breakfast" in the district of Sigdal.

The "Sigdal breakfast" was to become the traditional Norwegian "matpakken" (lunchbox).

During WWII, the program «Oslo breakfast» was stopped. Children got delivered only milk and rutabaga. Later on during War years they also got cod liver oil (*tran*, 1942) and c- vitamin supplements (1945). After the end of the War, the Oslo breakfast program was taken up again within primary schools and lasted until 1980, when the municipality decided to stop the program as a consequence of the general improvement of population's living conditions.

1960- 1990ies: Milk and fruit projects: governmental subsidies for buying fruits or milk at school have taken on different forms during these decades.

2000- Today: The Norwegian government is still subsidising fruits and milk in primary and secondary schools, even if the scope of the scheme has been reduced during the last years. Those programs are optional and relying completely on parental choice. (Opplysningskontoret 2010)

Choice of Oslo municipality

Geography plays a dominant role within the Norwegian scene. Norwegian municipalities are quite scattered and extremely diverse, regarding both size and density of population. The huge variation of population, from the municipality of Utsira, counting 206 people, to the municipality of Oslo, counting 64.676 (SSB 2015) Municipalities thrills under a great level of autonomy and at the same time of responsibility within the Norwegian state.

Given the demographical differences, each municipality has to prioritize differently.

Seen the breadth of this thesis, it was necessary to select out one municipality to focus on. Choice fell on the municipality of Oslo (*Oslokommune*, not to be mistaken with the county of Oslo, *Oslo fylkeskommune*).

Due to its size and density of population, Oslo was the natural choice for a comparison with an Italian municipality. Furthermore, Oslo is rather multi-ethnic, while several other Norwegian municipalities still presents a striking cultural and ethnical uniformity. The demographical challenges fronted by the two municipalities should be quite close to each other.

Oslo municipality has a population of 647,676 (SSB 2015). The centre of the city is allocated at the end of the Oslofjord. Thereby, the city is divided in three different sectors. Oslo is also the only city in Norway where two administrative levels are integrated: the urban municipality (*Oslo kommune*) and the county authority (*Oslo fylkeskommune*) are separated parts of the same administrative entity. Oslo municipality is subdivided into 15 boroughs (*bydel*)

When it comes to school meals, they are exclusively a parental responsibility. Neither boroughs nor municipality provide schools of catering or canteen services. An exception to this is the development going on in kindergartens: several private kindergartens have started to introduce hot-meal catering service. However, kindergartens are not object of this thesis and won't be further addressed.

7.1.4 How are menus put together?

Considering time-restrictions of the break, meals should be easy to eat. Meals have to be carried back-and-forth, and there are no chances to heat them up at school. Moreover, the current family-structure ruling Norwegian households is the one of full-time-dual-earners. This implies shorter time to plan and make lunchboxes.

Those facts pose severe limitations to how home-made school meals may be composed.

Next to the traditional “brødkiva” (bread slice) parents send yogurt, some kind of cereals, muffins or pizza, slices of cucumber, tomatoes and carrots, fresh or dried fruits and nuts. From time to time also hard-boiled eggs or some kind of salad found their place into the lunch-box. (Kjærnes 2001)

There is reason to believe that different ethnical background would influence how the lunch-box is put together. Furthermore, according to traditional, sociological perspective, parents’ socio-economic status would have a bigger influence on children’s nutrition – and, consequently, health status- within a home-carried lunch-box’ system, than within a system with school-provided meals. Undertaking a cross-sectional study among different schools, could bring more and valuable information on this topic.

7.2 Italian school meals

Several of the national strategies are targeting children. Recent data on children’s overweight/obesity point out regional differences: the southern region of Campania registered that 48% of children were to be considered either overweight or obese, against the 15% of the Northern-most region of Val d’Aosta. Data were collected by the local ASL, on ministerial initiative, in collaboration with the Italian National Health Institute (ISS), and referred to a representative sample of 3-graders children (age 8-9) of 46.315 children in 2.416 schools. (ISS 2014) On a national level, 22,9% children are measured to be overweight, 11,1% obese. (ISS 2014)

7.2.1 Shortly about the Italian school system

All children residing in Italy are enrolled into the Italian education system. Children between 5 and ½ and 6 and ½ years start their formal education. Compulsory school in Italy is divided in 3 cycles: Primary School (*Scuola Elementare* or *Primaria*) which ends after 5 years; then, from age 11, First Grade Secondary School (*Scuola Media*) which lasts 3 years. After the conclusion of this cycle, it’s compulsory for children to attend a Liceo (High School) or a professional Institute, for at least 3 years, or until reaching

age 16. Most children do fulfill the whole path, undertaking their final exams at the end of the High School (full 5 years).

During Primary school, beside from the required 27 hours to complete a formal week, several other options are available, such as school-weeks of 24, 30 or 40 hours. The choice relies heavily both on what the local families require and on which services the school is able to offer (for instance, if it has a canteen). The latter option, 40-hours-school-week is also known as the “full-time school” and is widely spread throughout the country.

Both Secondary and High School children must attend at least 30 hours of formal lessons each week.

As a consequence of the high degree of autonomy left to each school, it’s possible to encounter a wide range of alternatives. Still, it’s possible to merge them into 2 broad categories, hereby named *part-time* and *full-time* school. Please notice that these categories can include different options.

Usually, a school day starts at 8.30 and lasts until 12.30 (part-time option 1), 13.30 (part-time option 2) or 16.30 (full-time).

Whatever the design of the week chosen, the part-time option will include the children eating at home and will therefore not been addressed by this study. At the contrary, the full-time will necessarily imply the children eating at school. The following description of eating habits will therefore concentrate on the full-time option. (MIUR 2009)

7.2.2 Eating habits in Italian schools (full-time option)

The Italian compulsory school provides one warm meal, to be served in the school canteen, and allows 2 breaks of 30 minutes each to have a snack (home-carried).

The lunch-break usually lasts 1 hour, from 12-13 for first and second classes, and from 13-14 for third, fourth and fifth graders. The canteen is located within the school, most often at the 1st.floor, so the lunch -break implies an actual moving of the whole class from the classroom to

the canteen. It follows, that actual eating time is not a full hour, but might be anything less than 60 min.

The lunch is warm and consists of 3 courses: a first and a second main-course, followed by vegetables and fruits. This follows the traditional Italian eating pattern, which prescribes first main course to be made of carbohydrates (pasta, soup, rice and, from time to time, pizza) while the second to consist of proteins (such as fish, meat and seafood). Vegetables are always served beside the second course. Fruits follows as a dessert, sometimes substituted by an actual dessert (such as chocolate pudding, pannacotta, ice-cream).

The menu is set up by nutritionists and diet-experts, which may either belong to a special office within the Municipality administration, or be an external ad hoc commission for school canteens. (Comune di Roma 2015)

To drink, only water is served.

The meal is shared by both students and teachers, which are sitting at the same table of their pupils, enhancing the characteristic of eating moment as a moment for social gathering, which are still dominating adults Italians food habits.

One of the most recent national strategies prescribes the distribution of free fruits in one or two of the smaller breaks, as a snack.

When the regular school day is over, children may go to the After school. After school usually lasts till 18.00. No proper eating breaks are standardized within this frame, though children may eat up their home-carried snacks, between the different activities.

7.2.3 A brief history of school meals

In the latest years of the 1800 the discipline of pedagogy gained new interest both among the general public and within academies. The child and its needs were now the epicentre of the debate, and hereby nutrition became an important point of discussion.

The idea of school meals, subsidised by the single municipalities, came as an answer to the need to widen the foods children would consume within their families, especially those coming from disadvantageous situations.

1896: Polenta, “*yellow*” or “*mixed*” bread (made of a mixture of seeds, potatoes, semule etc.) was no longer regarded as adequately answering children’s needs for nutrients. Several school meals menus were put together, suggesting both cold and warm alternatives, and tried out indifferent schools within the capital (Turin). The cold alternative would usually imply sandwiches with cheese, chocolate, marmalade, boiled egg or fruits. The warm meal would consist of vegetable-soup or, sometimes, of warm beans and ½ egg. (Museo Torino 2015)

Seen the success of the trial, the school meals system was extended, after a while, to the rest of the country, alongside with the introduction of subsidized school-snacks.

1911- 1929: In spite of a national law (nr.487, 1911) which imposed all Italian municipalities to institute a “Patronage for school” to provide for, among other, school meals, still there are few signs/traces of that done in a capillary way throughout the whole country. (SIUSA 2002)

1930- 1945: During Fascism (1930-1945) this office went under the National Balilla Office (Opera Nazionale Balilla), the national body set up by Fascism to take care of youth-matters.

1947- 1959: With the fall of the Fascism Regime and the end of World War II., the Patronages knew a renovated support and enforcement by the State. During the 50ies several laws were emitted to give back both power and authority to the institution. Nevertheless, the Patronages carried out quite modest actions to provide school meals diffusively. (SIUSA 2002)

70ies: After a governmental tentative to strengthen the Patronages, those were finally suppressed by regional law nr.8 of 1978, and their functions and services were collocated within the municipalities. (SIUSA 2002)

1980- 90: Lately in the 70ies, and until the end of the 90ies, the italian population went through several demographic and economic changes, which eventually lead to a widening of the offer for the full-time option of school meals.

The rise of the demand had a decisive impact on the refectory system, resulting in a precisely defined and well-structured system.

In the meanwhile, the public attention was drawn once more toward what constitutes a healthy nutritional regime in general and, in particular, towards its connection with higher performances at school. (Lombardia region 2013)

In 1986 the INRAN publishes the firsts “Guidelines for a healthy and balanced diet”. Together with the LARN (*Livelli di Assunzione Raccomandati di Energia e Nutrienti per la popolazione italiana*, which can be translated as the “recommended levels intake of energy and nutrients for the Italian population”) this provides with the scientific evidence of nutritional recommendations which any school-meals provider has to refer to in order to promote health and the development of “rights” life-styles. (Lombardia Region 2013)

Today: The full-time option has now become the preferred scheme through Italy, even if with remarkable regional differences. In some municipalities, this option has been also extended to include the Secondary School.

7.2.4 How are school meals organized?

The system is provided (and financed by) the municipalities, which can take on different forms depending on the size of the municipality considered. The municipalities can decide if they want to assign both the drafting of the menu and the physical provision of food to specialized agency, through tenders.

Whereas quality control and food security are concerned, then it’s also decided by each municipality how they’d like to arrange that. Usually, it’s up to an internal office (intern to the Municipality Administration) to draft menus and tables on nutritional values adapted to the needs of the different ages. This office is usually called “Nutritionists office”. However, there seems to be a trend to outsource this service too, to specialized centres. (MIUR 2009)

Considering the differences among municipalities, this study will concentrate on the municipality of Rome. Because of its size and density of population, the municipality of Rome is sub-divided in territorial entity, each and any an emanation of the central Municipality. This ensures the presence on the territory of different provisional schemes, simplifying the study of it.

Rome

The territory of Rome is divided within 15 *Municipi* (town councils) which enjoy a broad administrative and financial autonomy. Each Municipio organizes itself differently, based on local population’s composition and needs. (Comune di Roma 2015)

When it comes to how school meals are organized, two are the leading schemes: the *appalto*, which practically means to outsource the service, signing a contract with an external provider, or *autogestione*, or self-management.

The choice of scheme would impact on how the Municipio organizes itself on the school-meals matter. In fact, even in presence of different administrative schemes, each Municipio has to grant that menu-composition, food- security and quality standards, follow national regulations and are equal across the country. To check if there is any remarkable variation between the two different schemes, with regard to how menus are put together, it was attempted to enquire all 15 *municipi*. Among them, 11 answered and fewer of them gave a complete answer. (Comune di Roma 2015) Two examples were chosen, 1 for each scheme, based on the amount and promptness of information delivered.

7.2.5 How are menus put together?

Menus are put together by a team of nutritionist. Two are the menus for a whole school year, divided in fall/winter and spring/summer semester.

The purpose of this differentiation is to prioritize seasonal foods and to answer to different needs for nutrients which follow different seasons. By seasonal foods, is understood both seasonal vegetables and fruits, but also different ways of cooking/seasoning the food. Spring and summer food is supposed to be “lighter”, with less seasoning and a stronger emphasis on raw food, such as different kind of salads, and neat meat.

As mentioned earlier (paragraph 5.4.2.) menus are structured over 3 courses, following Italian eating traditions: 1 part of carbs, 1 of proteins and 1 of vegetables. One fruit (or dessert) is served at the end of the meal.

Special attention is given to portions, for both nutritional and economics reasons. Following national guidelines, one “portion” of pasta is usually around 60 g (1/2 portion if served as a soup), while fresh meat should be 70 g, processed meat 50 g, fish 100 g and egg only 1 egg pr. serving. As for vegetables, 1 portion of salad is 50g, 1 of fennel or artichokes are 250. By “bread” it is intended 1 slice of bread pr. child, and with “fruit” it’s intended 1 fruit each.

Menus are decided on a weekly basis, with the protein-part being the basic change:

Eggs (or egg-based dish): 1 x week

Fish: 1 x week

Meat (red): 1 x week

White meat: 1 x week

Cheese: 1 x week

With white- meat, it is here intended chicken or turkey.

From time to time also pork would be served, either as chops or in the form of processed meat, such as "*prosciutto cotto*" (cooked ham, considered to be much easier for children to chew than the other, raw version of Italian ham, much more known abroad).

The Summer menu also includes ice-cream, 4/5 time in a month, instead of the after-meal fruit.

Vegetarian, vegan or allergy- friendly menus are available on demand. The same applies to special menus, if specific religious or health prescriptions have to be followed.

Tab. 4.0.: Example of a week menu, fall/ winter, VI week:

Day	Menu
Monday	Pipette rigate (type of pasta) with butter and parmesan Roasted pork Mix of potatoes, carrots and beans Bread Fruit
Tuesday	Risotto in tomatosauce Scrambled egg Spinach with olive oil Bread Fruit
Wednesday	Mezze penne rigate (type of pasta) with pesto Roasted chicken Green salad Bread Fruit
Thursday	Mezze farfalle (pasta in tomato sauce) Hake fillets Fennel salad Bread Fruit
Friday	Cannellini beans and potatoes Buffalo mozzarella Flanges Carrots Bread Fruit

Freely translated after the Weekly menu (fall/ winter) of the Nutritionist office of Municipio IV (Comune di Roma 2015) – Author's own translation

8 Overall Discussion

The differences between the two systems, presented separately so far, will here be analysed and compared, before proceeding to draw some conclusion.

8.1 Comparison of strategies

Different kind of strategies have been identified and presented in this thesis. Those were divided in 4 categories: political, administrative, economic and educational tools.

Tab.5.0: Comparison of strategies according to type

Type of Strategy	Norway	Italy
Law/ Regulations	Global Action plan Restrictions on food marketing Salt partnership (Fat partnership)	Global Action plan Limitations on food marketing
Administration/ Organization	Healthy centres National nutrition guidelines Key-hole label	Healthy centres Nutritional guidelines
Economic/Finance	School fruit & School milk Nutrition prize	School fruit Nutrition prize
Education/Health promotion	National food campaigns	National campaigns National school campaigns Regional/ Local school campaigns Collateral measures Projects, seminar, workshops

The first category, law/regulations, seems to be the leading option in Norway, while the latter (education/health promotion) enjoys a particular position within the Italian context.

This can be interpreted as a consequence of political culture and tradition. However, there is reason to affirm that such traditions are in place due to structural, country-specific factors, such as population density and its distribution on the territory.

Furthermore, as a consequence of its history and geographical position, Norway is characterized by a rather close internal market, to protect own productions, and highly ruled by the government. In addition to its geographical position inside of Europe, also the country's internal geography has always played a determinant role in shaping Norwegian policies. In order to grant equality across the country, a strong, central State, emitting clear mandates to the local level has been essential. Under this point of view, regulations and laws are a suitable and highly effective method to implement policies.

On the contrary, Italy has historically been characterized by a looser kind of governmental control and quite a free market. Governmental involvement within people's life is neither common nor welcomed by Italians. The strong position occupied by informal institutions, such as the family or the church, provide the State with few tools to have an actual impact on people's food habits. Consequently, the Italian health care system is highly decentralized, opening up for huge local variances.

The level of decentralization and the high density of population pose a strong hinder to the development of a highly effective national strategy.

However, one of the areas where governmental influence is preponderant, is within the educational sector: through this, in fact, it is possible for the State to reach out to all layers of the population.

Even if path-dependency and organizational culture favour the implementation process of some policies rather than other, it could be possible to exchange successful political means and strategies among countries (Christensen 2010). As boundaries are shrinking, both economies and populations are getting closer to one another. Exchanging political tools across countries could contribute to facilitate the legitimization process around implementation of new policies. (Christensen 2010)

8.2 Conclusive thoughts on the case-study

In contrast to the Norwegian tradition of high degree of governmental involvement, the school-meal appears to be left-out of this practice, while it is strongly regulated within the Italian setting.

Beside from the direct effect of instructing children on how to eat, teaching them “within” an institutionalised nutritional scheme, several other effects have been proven to arise within the case of a school meal program. For instance, it has been shown that providing school children with school meal has positive effects both on their learning’s outcomes, as well as to the development of their social skills. At the same time, school food is an extended social welfare intervention, a mean to level up social differences.

It seems rather unusual that Norway, despite its lasting tradition of a strong government, close to the people, should leave such an area out of governmental ruling. Furthermore, the standardized system allows reaching out to all population groups, even those who usually fall out of governmental interventions.

By deciding to not have a national school system, Norway gives up a powerful mean to achieve the goal of an overall healthier population.

Reasons behind this choice are assumed to be many. Some of them will be describe in the following.

Firstly, a relevant role could be ascribed to the rapid development that followed the economic boom of the 1970s (Grytten 2008). The high-speed process may not have embraced all the sector at the same time. As an example of this, the Oslo breakfast program was stopped as a consequence of the raised living standards.

However, the brief history presented earlier in this thesis does show some extent of governmental interest and involvement within the public nutrition field, as well as a certain attention to public health interventions. It seems odd that this should be completely left out because of a sudden economic growth.

A more comprehensive perspective on this could be derived by the work of Kjærnes (2001) whereas the four Scandinavian countries are compared. It appears clearly that Norway does share several traditional foods with one (sometimes two) of the other Nordic countries. To regard the governmental choice of not having school-meals only in favour of the open-face sandwich does not seem a satisfactory argument. Thus, the schools could have provided sandwiches to their

pupils too. Probably influenced by stronger gastronomic traditions, such as the Italian one in this case, it is common practice, while speaking of food habits, to focus mainly on the kind of foods chosen and how this is served.

However, moving the focus on the meal- structure, rather than on meals contents, the former element will gain strength. In fact, when meal patterns are concerned, this seems to be the element which distinguishes Norway from the surrounding countries. Under this perspective, tradition would be not particularly related to the “brødskiva” (*bread slice*), but rather to the fact that this was a carried-from-home, simple and dry - as opposed to fresh which, according to Kjærnes, used to be regarded as unhealthy -kind of food. (Kjærnes 2001) This home-carried, wrapped lunch had to be consumed quickly and early in the day, following the sun-cycle, giving the possibility to make it home for the early dinner.

Important and characteristic to Norway was also its simplicity: it is a leading trend, in fact, to keep all social aspects to a minimum. Food has been considered as a necessary mean to survival, to be eaten, not enjoyed, and cooking as a waste of time. This quite ascetic approach, common to many life’s amusements, could be traced back to the Lutheran roots of the Norwegian culture. The severity of such an approach appears even clearer when compared to the Italian culture, characterized by a hedonistic approach to food, cooking and social life.

Looking at this within the frame of an intention of building up, and later support, a feeling of national identity and belonging, the tradition of the “matpakken” suddenly acquire more significance. Such an argument becomes predominant especially if seen within an historical and geographical context, of a country which have been passionately detecting all those elements which could distinguish it from its culturally “stronger” neighbours.

The case-study presented points out that school meals, in both countries, not necessarily follow the official, government-endorsed guidelines. Rather, school-meals adhere to traditions and, through that, to agricultural and food- supplies overflow. (Levine 2010)

9 Conclusion

On a policy level, there is a need for a common understanding of nutrition as an integrated science, which would integrate both the biological, social and environmental aspects, thus laying down the foundation for any effective food and nutrition strategies.

To carry out a comparative analysis of different countries nutritional policies is a difficult task. One main challenge is posed by food habits being the result of inter-sectorial factors, often specific to that particular context and population. It follows that it may be an arduous task to compare the strategies and interventions implemented, and checking if those are having any impact on the population.

This thesis identified national nutritional guidelines to be at the core of such policies and to represent the expression of the two States' point of view on such a matter.

Such guidelines may be considered under several aspects: under a political point of view, they are the expression of concrete goals and targets within a public health approach.

Seen as an administrative mean, such guidelines contribute to the design and development of public health strategies within one nation.

Even if both countries have developed similar guidelines, they do differ on some vital points.

First of all, the political institutions such guidelines are grounded in, differ both in relation to their mandate and political authority otherwise. The Norwegian Health Directorate is an *executive agency and professional authority under the Ministry of Health and Care Services* (Health Directorate 2016) much unlike the Italian CREA, which is a national council for research, with no political authority, under the Ministry for Forestry, Agriculture and Nutrition. It follows that the recommendations or guidelines coming out from the Directorate will be more entrenched within the system, than those launched by the CREA. In both cases, such guidelines are not mandatory, but their political impact and support could be quite different.

Secondly, the countries differ on type of foods targeted. As we have seen, there is an international understanding to work for the reduction of three kinds of nutrients: salt, fat, sugar. While the Italian guidelines do address all three groups, giving concrete suggestions on how to

reduce their intake, the Norwegian guidelines limit their suggestions to the first two groups. Given the exceedingly high amount of sugar intake among Norwegian population, this lack is particularly remarkable.

Additionally, in form of food-based-dietary-guidelines, such guidelines could be interpreted as an important indication of what constitutes the gastronomic heritage of a nation.

In both countries there is an evident mix of traditional and modern elements, on different aspects. In Norway the variation of foods seems to have widened.

Socio-demographical trends do have an impact on meal's structure and contents in both countries. However, the Norwegian society seems to be characterised by a higher degree of curiosity and flexibility, open to welcome new inputs and trends within food habits. On the other hand, the Italian food culture is decidedly more conservative and attached to its traditions. This may be due to the preponderant role which food culture has had in developing an Italian cultural identity. Nevertheless, some changes could be traced there too. Meal composition seems to be changing for an increasingly bigger share of population. The traditional first course, of pasta or rice, is now substituting by more vegetables and bread (CENSIS 2011).

As for the case study, tradition seems to play a stronger role than policies. The "*matpakke*" is still playing a dominant role within the Norwegian diet, even if other foods have made their "entrance" next to the traditional open-face sandwich, while Italian gastronomic tradition is effectively perpetrated by the school-meal program. Some examples are green or pasta salads, rice or omelette. This is true mostly for the adult population. Dinner eating time has been delayed, especially in larger urbanistic centres.

According to traditional organizational theory, success stories may be individuated and transferred. (Christensen 2010) However, to grant their success within a new context a ground pre-work must be done, to isolate the intervention or strategy in exam, stripping it off of any contextual factors. This has been done by identifying possible concomitants factors, typical of the population or of the political context in exam, which could then be put aside.

Both countries are at the same time a toolbox and a pilot project which could gain by borrowing tools from one another, adapting these to their own internal context. Once adjusted to the surrounding context, those strategies could be translated into "success stories" within a country's own system.

The comparative analysis gave interesting results, with regard to both preferred type of strategy and food habits of each country. The State of Norway shows clearly a predilection for regulative type of strategies and policies interventions. Therefore, it is remarkable that school meals are left outside of governmental intervention, relying completely on families' behavior. On the other hand, despite its long tradition of leaving the government out of the private sphere, Italy regulates heavily the school food sector.

This difference gains strength when looking at national data on population's food habits, which show a raise of overweight/obesity through all level of population, especially among children. Seen within the context of national nutrition guidelines, it shines clearly through intent, from both States, to perpetrate national traditions through how school meals are organized. When it comes to Norway, this desire seems to be in contrast with what could be an effective solution to redirect population's food habits on a healthier path. This is not the Italian case, where national guidelines, food habits and school meals seem to match.

9.1 Suggestions on future perspectives

During the work on this thesis, several aspects were encountered which may have been interesting to farther explore. Among those, two were the points which could be useful to farther investigate. The first one is to check which, if any, governmental intervention is actually reaching out: which are the most effective? Which factors are influencing them? Are they transferable?

Following this reasoning, it may be interesting to have a closer look at the Health Houses. The policy behind this program is the same in both countries, but it has been "interpreted" differently and adapted to national settings. The underlying idea is the same, showing that this flow of information and solutions is already happening. From a first impression, the difference seems to lie in the implementation process: the health houses in the two countries differ regarding infrastructures, the type of services delivered and the financing, which are all contextual-related.

A third suggestion is to undertake a review of the methodology lying at the base of national nutritional guidelines. In fact, despite the declaration of all being based on the best available knowledge, they do present some differences from State to State. Some other factors must play a role, which may come in conflict with what is established as healthy. Economics interests, of

food market and food production, are not necessarily directly expressed, but do play a role when drawing the line of what is healthy and what is not. This clearly appears when comparing two countries with such different climate- thus food accessibility and production. It may be interesting to study the kind of documents and researches which lie at the base of each guideline and then to make a comparison, looking for eventual bias or underlying conflicts of interest.

There is reason to believe that the high level of multi-ethnicity in each country will only increase during the following years. Immigrants not only bring along new (food) cultures, but also a span of illness which may vary a lot by the dominant one in the host country. Health systems would have to increase the level of cross-countries exchange of knowledge and information, with regard to both healthcare services and prevention. An important element in this path is cross-countries comparison and meta-analysis.

References

Adriaanse MA, Vinkers CD, De Ridder DT, Hox JJ, De Wit JB. (2011)

Do implementation intentions help to eat a healthy diet? A systematic review and meta-analysis of the empirical evidence. *Appetite*. 2011;56(1):183-193

<https://www.healthsystemsevidence.org/articles/17590?t=Doimplemen>

Amilien Virginie (2013) “Thoughts about food culture and patterns of eating in Norway”, *Anthropology of food*, online version available since 10.01.2013, consulted the 27.09.2015

Anand SS, Hawkes C, de Souza RJ, Mente A, Dehghan M, Nugent R, Zulyniak MA, Weis T, Bernstein AM, Krauss RM, Kromhout D, Jenkins DJ, Malik V, Martinez-Gonzalez MA, Mozaffarian D, Yusuf S, Willett WC, Popkin BM (2015) “Food Consumption and its Impact on Cardiovascular Disease: Importance of Solutions Focused on the Globalized Food System. A Report from the Workshop Convened by the World Heart Federation.”

<http://www.ncbi.nlm.nih.gov/pubmed/26429085>; 07.10.2015

Beaumann, C., Cannon, G., Elmadfa, I., et al. (2005) The principles, definition and dimensions of the new nutrition science. *Public Health Nutrition*, 8(6a), 695- 698.

Bendich, A., FACN, Richard J., Deckelbaum MD, FRCP (2005) “Preventive Nutrition - The Comprehensive Guide for Health Professionals” ISBN: 978-1-58829-445-6 (Print) 978-1-59259-880-9 (Online); read 07.10.2015

Blank, R.H., & Burau, V., (2010) *Comparative Health Policy*, Palgrave Macmillan, 3rd.edition

Campbell, N.R.C., MD, Appel, L. J., MPH; Cappuccio, F., DSc, FRCP; Correa-Rotter, R.; Graeme J. H., & al. (2014) A Call for Quality Research on Salt Intake and Health: From the World Hypertension League and Supporting Organizations. *Policy statement from the world hypertension league*, consulted 10.07.2015 at

http://www2.warwick.ac.uk/fac/med/staff/cappuccio/who/whl_video/j_clin_hyperte_2014_salt_call.pdf

[CENSIS-Coldiretti \(2011\) First report on Italian eating habits. Summary of findings. Primo rapporto sulle abitudini alimentari degli italiani, Sintesi dei principali risultati, http://www.largoconsumo.info/102011/DOCabitudinialimentaricensiscoldiretti-1011.pdf](http://www.largoconsumo.info/102011/DOCabitudinialimentaricensiscoldiretti-1011.pdf)

Cerea Alessandra (1912), History of school-meals. *Salute mentale e percorsi*, Provincia di Bologna, read 28.01.2016

<http://www.risme.provincia.bologna.it/mente-salute-mentale-percorsi/storia-infanzia-bologna/refezione-scolastica.html>

Comune Roma (2015) Roma capitale. Refezione scolastica- I menu', read 30.01.2016, available at <https://www.comune.roma.it/pcr/it/newsview.page?contentId=NEW313749>

CREA (2015) Strutture scientifiche. Alimenti e nutrizione. Read 07/2015, at <http://www.crea.gov.it/alimenti-e-nutrizione/>

Cristensen, T., Lægreid, P., Roness, P.G., Røvik, K.A. (2010) Organisasjonsteori for offentlig sektor. Instrument, kultur, myte. Univesitetsforlaget 2009, Oslo, 2. utg. 2. opplag 2010

De Santi, A., Ranieri, G., Filippini, F., Minutillo, A. (2009) La promozione della salute nelle scuole. Prevenzione dell'obesità e promozione di uno stile di vita fisicamente attivo. Istituto Superiore di Sanità, read 02/2016, available at www.iss.it/biary/publ/cont/096web.pdf

Dernini, S., Meybeck, A, Burlingame, B, Gitz, V, Lacirignola, C., Debs, P., ... & El Bilali, H. (2013) Developing a methodological approach for assessing the sustainability of diets: the Mediterranean diet as a case study. *New Medit* 12 (3), 28-36, consulted on 09/2015, available at www.medfoodcultures.org/files/download/new_medit_article_2013_3_28_37.pdf

DPCM (2014a) *Regolamento di organizzazione del Ministero della Salute (14G00073)*

Decree of the President of the council of ministers, 11 February 2014, n.59, consulted the 13.08.2015, at <http://www.trovanorme.salute.gov.it/norme/dettaglioAtto?id=48846>

ENTECRA (2015) Three major Italian institutions research join forces with

FAO. Memorandum of understanding between ENEA, FAO, CNR e CRA

http://sito.entecra.it/portale/public/documenti/fao__crea-accordo---.pdf, consulted 15.08.2015

Esping-Andersen, Gøsta (1990). *The three worlds of welfare capitalism*. Princeton,

New Jersey: Princeton University Press, read 20.04.2016

<http://isites.harvard.edu/fs/docs/icb.topic1134169.files/Readings%20on%20Social%20Democracy/Esping%20Anderson%20%20The%20Three%20Worlds%20of%20Welfare%20Capitalism.pdf>

FAO (1996) Preparation and use of food-based dietary guidelines - *Report of a joint*

FAO/WHO consultation Nicosia, Cyprus. WHO Geneva, 1996

<http://www.fao.org/docrep/x0243e/x0243e00.htm>, consulted 15.08.2015

FAO (2015a) Food-based dietary guidelines – Background

http://www.fao.org/nutrition/education/food-dietary-guidelines/background/en/consulted_15.08.2015

FAO (2015b) Food- based dietary guidelines- Norway

<http://www.fao.org/nutrition/education/food-based-dietary-guidelines/regions/countries/norway/en/> consulted 15.08.2015

FAO (2015c) *The state of Food Insecurity in the World 2015*. Glossary of selected terms, read 16.08.2015, at www.fao.org/hunger/glossary/en

FHI- Folkehelseinstitutt (2012) «Fakta om hjerte-karsykdommer, fakta-ark med helsestatistikk» Folkehelseinstitutt

http://www.fhi.no/eway/default.aspx?pid=239&trg=Content_7242&Main_6157=7239:0:25,8904&MainContent_7239=7242:0:25,8906&Content_7242=7244:110411::0:7243:2:::0:0

Gabrielli, Aldo (2015) “Grande dizionario italiano Hoepli
<http://www.hoepli.it/libro/grande-dizionario-hoepli-italiano/9788820366957.html>,
consulted 07.11.15

Gale Group (2003) “Dual- Earner Families, International Encyclopedia of Marriage and Family”, COPYRIGHT 2003 The Gale Group Inc.
http://www.encyclopedia.com/topic/Dual-Earner_Families.aspx

Gillis, A. J. (1993), Determinants of a health-promoting lifestyle: an integrative review. *Journal of Advanced Nursing*, 18: 345–353. doi: 10.1046/j.1365-2648.1993.18030345.x

Grytten, Ola (2008) «The economic history of Norway» EH. Net Encyclopedia, edited by Robert Whaples, March 16, 2008. [Eh.net/encyclopedia/the-economic-history-of-norway/](http://eh.net/encyclopedia/the-economic-history-of-norway/)

Hagen, Terje, Hakkinen, Unto, Belicza Eva, Fattore Giovanni, Goude Fanny (2015)

“Acute myocardial infarction, use of percutaneous coronary intervention, and mortality: a comparative effectiveness analysis covering seven European countries” published online in Wiley Online Library, hentet October 2015

Hawkes C. (2006) Uneven dietary development: linking the policies and processes of globalization with the nutrition transition, obesity and diet-related chronic diseases.

<http://www.ncbi.nlm.nih.gov/pubmed/16569239> hentet den 04.08.2015

Health Directorate (2011) «Kostråd for å fremme folkehelsen og forebygge kroniske sykdommer – Metodologi og vitenskapelig kunnskapsgrunnlag» publ. 01.01.2011, read 08.2015

<https://helsedirektoratet.no/publikasjoner/kostrad-for-a-fremme-folkehelsen-og-forebygge-kroniske-sykdommer-metodologi-og-vitenskapelig-kunnskapsgrunnlag-IS-1881.pdf>

Health Directorate (2013) «Mat og måltider i grunnskolen. En kvantitativ landsdekkende undersøkelse blant kontaktlærere, skoleledere og ansvarlige for kantine/matbod», read 12.2015

<https://helsedirektoratet.no/Lists/Publikasjoner/Attachments/297/Mat-og-maltider-i-grunnskolen-IS-2135.pdf>

Health Directorate (2014a) «Anbefalinger om kosthold, ernæring og fysisk aktivitet»
<https://helsedirektoratet.no/publikasjoner/anbefalinger-om-kosthold-ernering-og-fysisk-aktivitet>, read 08.2015

Health Directorate (2014b) Samfunnsutvikling for god folkehelse. Rapport om status og råd for videreutvikling av folkehelsearbeidet i Norge. Helsedirektoratet,
<https://helsedirektoratet.no/publikasjoner/samfunnsutvikling-for-god-folkehelse-rapport-om-status-og-rad-for-videreutvikling-av-folkehelsearbeidet-i-norge>

Health Directorate (2015a) Små grep, stor forskjell. Helsedirektoratet kostråd, oct.2014,
<https://helsedirektoratet.no/Lists/Publikasjoner/Attachments/1014/Helsedirektoratets%20kostr%C3%A5d%20IS-2377.pdf>, read 06.2015

Health Directorate (2015b) Utviklingen i norsk kosthold 2015 IS- 2382

Health Directorate (2015c) Trender i det norske kosthold. *Kosthold og ernæring*
<https://helsedirektoratet.no/folkehelse/kosthold-og-ernering/trender-i-det-norske-kostholdet>, read Nov.2015

Health Directorate (2015d) Nasjonalt råd for ernæring,

<https://helsedirektoratet.no/Sider/Nasjonalt-råd-for-ernæring.aspx>, read 11/2015

Health Directorate (2015e) Organisasjonskart med seksjoner, consulted on 10/2015, available at www.helsedirektoratet.no/Documents/Om_oss/Organisasjon/Organisasjonskart-helsedirektoratet.pdf

Health Directorate (2016) About the Norwegian Directorate of Health, official website, read 05/2016, at <https://helsedirektoratet.no/english/about-the-norwegian-directorate-of-health>

Helsetjeneste (2015) *Store Norske Leksikon*, read 06/2015, at <https://sml.snl.no/helsetjeneste>

HPB – Health Promotion Board (2012) Healthy Meals in School Programme, HPB, Government of Singapore, read 04/2016, available at <http://www.hpb.gov.sg/HOPPortal/programmes-article/3088>

IHME (2010) “Global burden of diseases, injuries and risk factors study” Institute for Health Metrics and Evaluation (IHME), University of Washington, read 10/2015 www.healthdata.org/files/GBD

INRAN (2006) I consumi alimentari. Dati indagine nazionale sui consumi alimentari, INRAN-SCAI, read 12.08.2015, available at http://nut.entecra.it/710/I_consumi_alimentari__INRAN-SCAI_2005-06.html

ISS (2014) Obesità Italia. Dati epidemiologici. *Epicentro Italia*, Istituto Superiore di Sanità, read 29.09.2015, available at www.epicentro.iss.it/problemi/obesita/EpdItalia.asp

ISS (2015) Le statistiche per le malattie cardio-vascolari in Europa per il 2008, updated 11.05.2015, read 29.09.2015, available at <http://www.epicentro.iss.it/focus/cardiovascolare/StatisticheEuropa.asp>

ISTAT – Statistics Italy (2015) Dati obesità/sovrappeso infanzia, Centro statistica nazionale <http://sitis.istat.it/html/>

Johannessen, A., Tuft PA, Christoffersen, L. (2015) Introduksjon til samfunnsvitenskapelig metode, 4.utgave, abstrakt forlag, Oslo

- Kearney, J. (2010) Food consumption trends and drivers. Department of Biological Sciences, Dublin Institute of Technology (DIT), Dublin, EirE, consulted on 09/2015, available at <http://rstb.royalsocietypublishing.org/content/royptb/365/1554/2793.full.pdf>
read 29.10.15,
- KEFF (2010) Veileder om frisklivssentraler. Etablering og organisering. Høringsuttalelser. Read 11/2015 at
<http://www.keff.no/filestore/Nyhets-dokumenter/Veilederkomfrisklivssentr.pdf>
- Kjærnes, Unni (ed.) (2001) Eating Patterns. *A day in the lives of Nordic Peoples. Lysaker: National institute for Consumer research (2001)*. Abstract. Report no.7-2001, consulted on 01/2016, available at www.sifo.no/files/file48478_rapport2001_07.pdf
- Kommunalbanken (2014) The Norwegian local government sector as an investment case, consulted on 03/2016
<http://www.kommunalbanken.no/en/funding/investor-relations/investing-in-norway>
- Law on the Establishment of the National Health Service (1978) Law 23 December 1978, nr.833 on the NHS.
- Levine, S. (2010) School Lunch Politics: The Surprising History of America's Favourite Welfare Program. Extract, read 02/2016, available at <http://www.amazon.com/dp/0691146195>
- Lombardia Region (2013) Storia della mensa scolastica, Archivio storico ASL di Milano, ASL-Mi 2013, read 29.01. 2016, available at <http://www.aslmi2.it/web/hp.nsf/Layout?readform&page=ricerca&db=documenti&searchWord=mensa%20scolastica>
- Lozano, R., Naghavi, M., Foreman, K., Lim, S., Shibuya, K., Aboyans, V... & AlMazroa, MA (2013) Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis of the Global burden of Disease Study 2010. *The Lancet*, 380 (9859), 2095-2128, consulted on 08/2015, available at <http://www.ncbi.nlm.nih.gov/pubmed/23245604>
- Matthew R. (2015) Population genetic differentiation of height and body mass index across Europe. *Nature Genetics*, sept. 2015, read 09/2015, available at

<http://forskning.no/menneskekroppen-evolusjon/2015/09/derfor-er-nordeuropeere-hoye-og-slanke>

Mattilsynet (2015) Matportalen. Informasjon om mat og helse fra offentlige myndigheter. Om matportalen.no. Read 12/2015, at http://www.matportalen.no/artikler/om_matportalenno

Min.AAF. (2009) Strategia nazionale frutta nelle scuole A.S.2014-2015, Italian Ministry of Forestry, nutrition and Agriculture, White paper, read 02/2016, available at http://ec.europa.eu/agriculture/sfs/documents/strategies-2014-2015/it_national_strategy_2014_2015_it.pdf

Min. AAF. (2015) Eat well, live better – National campaign, health promotion through diet. Italian Ministry of Forestry, Nutrition and Agriculture, seen 06/2015, available at <https://www.youtube.com/watch?v=CjxNhc5ZX9Y>

Min.Sal. (2008) Portale governo italiano. Temi. Cure primarie. Menu., read 03/ 2016, available at http://www.salute.gov.it/portale/temi/p2_6.jsp?lingua=italiano&id=822&area=Cure%20primarie&menu=casa

Min. Sal. (2015a) Nutrizione e salute degli italiani, Italian Ministry of Health, read 09/2015, at http://www.salute.gov.it/portale/ministro/p4_9_0_1.jsp?lingua=italiano&categoria=Nutrizione&menu=ministeroSalute&id=77

Min. Sal. (2015b) La casa della salute. Portale informazioni del Ministero della salute, Italian Ministry of Health, read 02/2016, available at http://www.salute.gov.it/portale/temi/p2_5.jsp?lingua=italiano&area=Cure%20primarie&menu=casa

Min. Sal. (2015c) Linee di indirizzo per la Comunicazione Commerciale relativa ai prodotti alimentari e alle bevande, a tutela dei bambini e della loro corretta alimentazione, read 03/2016, available at http://www.salute.gov.it/imgs/C_17_pubblicazioni_2427_allegato.pdf

Ministry of Health and Care services (2007a). *National strategy to reduce social inequalities in health* St.meld. nr. 20 (2006-2007) Oslo: Ministry of Health and care services, 2007, read 13.08.2015. <https://www.regjeringen.no/no/dokumenter/Stmeld-nr-20-2006-2007-/id449531/?ch=4>

Ministry of Health and Care services (2007b) *Recipe for a healthier diet. Action plan for a improving populaton's diet.* (2007-2011), Departementene, I-1121B, read 13.08.2015

<https://www.regjeringen.no/globalassets/upload/hod/vedlegg/304657-kosthold.pdf>

Ministry of Health and Care services (2012) *Folkehelseoven*, LOV-2011-06-24-29, Ministry of Health and Care Services, consulted 02/2016, available at www.lovdata.no/document/NL/lov/2011-06-24-29

Ministry of Health and Care services (2013a) *Areas of responsibilities within the Ministry of Heath and Care Services.* Departementene, article, updated 12.02.2013, consulted on 06/2015, available at www.regjeringen.no/no/dep/hod/dep/ansvarsomraader/id446/

Ministry of Health and Care services (2014a) *Public Health Report-Good Health, Shared Responsibility.* Meld. St. 34 (2012-2013) Report to the Storting (White paper) Summary. Consulted on the 13.08.2015, at www.regjeringen.no/en/dokumenter/meld.-st.-34-3012-2013/id723818

MIUR-Ministry of Public Education and Research (2009) *Famiglie e ordinamenti.* Read 28.01.2016, available at <http://hubmiur.pubblica.istruzione.it/web/istruzione/famiglie/ordinamenti>

Murray, C. J. & Lopez, A. D; (1997) Alternative projections of mortality and disability by cause 1990-2020: Global burden of disease study, *The Lancet*, 349 (9064);1498-1504. Consulted on 08/2015, available at <http://www.ncbi.nlm.nih.gov/pubmed/23245608>

Museo Torino (2015) *Archivio Storico della Città di Torino, Annuario Statistico, Torino 1910-11*, p.244, read 28.01.2016, available at <http://www.museotorino.it/view/s/758ba13cc020453d8b75a7a75c9f2916>

NTFE (2011) *De viktige unge. Norsk Tidsskrift for ernæring*,(1)2012, read 09/2015, at

<http://www.ntfe.no/annonsorer/10-tidsskriftet/nr-1-2012/9-de-viktige-unge>

NNR (2012) Nordic nutrition recommendations, Integrating nutrition and physical activity, Nord 2014: 002, ISSN 0903-7004, Nordic Council of ministers,

<https://www.norden.org/en/theme/nordic-nutrition-recommendation/nordic-nutrition-recommendations-2012>

<http://www.norden.org/en/theme/nordic-nutrition-recommendation>

NRE- Nasjonalt råd for ernæring (2015) «Mange spiser for mye sukker, er det

kostekspertenenes skyld?» Nasjonalt råd for ernæring, blogg, read 22.04.2016

<http://www.ernaeringsradet.no/>

<http://down.cenet.org.cn/upfile/40/2006111211524176.pdf>

Opplysningskontoret (2010) Skolemåltidets historie. Matpakkens historie.

Opplysningskontoret for Meieriprodukter

<http://www.skolefrukt.no/om-skolefruktordningen/skolemaltidets-historie.html>

Rees, K., Hartley, L., Flowers N., Clarke, A., & al. (2013) 'Mediterranean' dietary pattern for the primary prevention of cardiovascular disease,

<http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD009825.pub2/abstract>

read 7.08.2015

Regione Lazio (2016) Le case della salute nel territorio. Costruzione dei nodi della rete di

cura. Read 03/2016, available at http://www.lazioeuropa.it/45_progetti_per_il_lazio-3/costruzione_dei_nodi_della_rete_di_cura_apertura_di_48_case_della_salute_nel_territorio_regionale-34/

Riksrevisjonen (2015) Riksrevisjonens undersøkelse av offentlig folkehelsearbeid. Dokument 3:11, 2014-2015, read 03/2016, at

<https://www.riksrevisjonen.no/rapporter/Documents/2014-2015/OffentligFolkehelsearbeid.pdf>

Siusa (2002) Sistema Informativo Unificato per le Sovrintendenze Archivistiche, Italian National Archive, read 29.01.2016, available at

<http://siusa.archivi.beniculturali.it/cgi-bin/pagina.pl?TipoPag=prodente&Chiave=28512>

Skolefrukt (2015) Om skolefruktordningen. Retningslinjer. Read 03/2016, available at www.skolefrukt.no

Skolemelk (2015) Om skolemelkordning, 03/2016, available at www.skolemelk.no

SSB – Statistics Norway (2015) Folkemengde og befolkningsendringer , 1.januar 2016, berekna tal, read 03/2016, available at

<https://www.ssb.no/befolkning/statistikker/folkemengde/aar-berekna/2015-12-17?fane=tabell&sort=nummer&tabell=249243>

SSB (2015b) Arbeid og lønn, Statistics Norway, read 03/2016, available at

<https://www.ssb.no/statistikkbanken/selecttable/hovedtabellHjem.asp?KortNavnWeb=aku&CMSSubjectArea=arbeid-og-lonn&checked=true>

St.meld. nr. 47 (2008-2009). Samhandlingsreformen. Hentet fra

<http://www.regjeringen.no/nb/dep/hod/dok/regpubl/stmeld/2008-2009/stmeld-nr-47-2008-2009-.html?id=567201>

Stradling C, Hamid M, Taheri S, Thomas GN (2014) A review of dietary influences on cardiovascular health: part 2: dietary patterns, read den 05.08.2015, available at

<http://www.ncbi.nlm.nih.gov/pubmed/24993125>

Tengland PA (2010) Health promotion and disease prevention: logically different conceptions? *Health Care Analysis* 18 (4) 323-341.

<http://www.ncbi.nlm.nih.gov/pubmed/19771522> 05.02.2016 (only the abstract)

Thomson,S. & al. (2013) International profiles of health care systems. *The Commonwealth Fund*, November 2013, read 04/2016, at

http://www.commonwealthfund.org/~media/Files/Publications/Fund%20Report/2013/Nov/1717_Thomson_intl_profiles_hlt_care_sys_2013_v2.pdf

Tufto, J. (2013) «Derfor spiser vi lørdagsgodt» Bergens Tidende
<http://www.bt.no/nyheter/innenriks/Derfor-spiser-vi-lordagsgodt-2845911.html>
lest den 20.04.2016, kl.11.22

Turrini (2001) Food consumption patterns in Italy. The INN-CA study, 1994, read 03/2016, available at
https://www.researchgate.net/profile/Aida_Turrini/publication/11878453_Food_consumption_patterns_in_Italy_the_INN-CA_Study_1994_1996/links/0fcfd50599e39b498c000000.pdf

Understandingitaly (2010) Understanding Italy: Italian education system. Informations to English speaking visitors, read 28.01.2016, available at
<http://www.understandingitaly.com/profile-content/education.html>

WHO (1946) Preamble to the Constitution of the World Health Organization, as adopted the International Health Conference, New York, 19-22 June, 1946. Official Records of the World Health Organization, no. 2, p. 100. Read 08/2015
<http://www.who.int/about/definition/en/print.html>

WHO (2003) Diet, nutrition and the prevention of chronic diseases: report of a Joint WHO/FAO Expert Consultation. WHO Technical Report Series, No. 916. Geneva: World Health Organization; 2003,
<http://www.who.int/dietphysicalactivity/publications/trs916/en/> consulted 08/2015

WHO (2003a) Food based dietary guidelines in the WHO European Region, Nutrition and Food Security program, consulted 08/2015, available at
http://www.euro.who.int/__data/assets/pdf_file/0017/150083/E79832.pdf

WHO (2004) “Global strategy on diet, physical activity and health” publication of the WHO, Geneva, Switzerland, online
http://www.who.int/dietphysicalactivity/strategy/eb11344/strategy_english_web.pdf, consulted 08/2015

WHO (2013a) “Global action plan for the prevention and control of non-communicable diseases 2013-2020”, publication of the WHO, Geneva, Switzerland, available at

http://apps.who.int/iris/bitstream/10665/94384/1/9789241506236_eng.pdf?ua1
consulted 08/2015

WHO (2015a) Healthy diet. *Fact Sheet N°394*. WHO, Media centre,

<http://www.who.int/mediacentre/factsheets/fs394/en/> read August 2015

WHO (2015b) Food and agriculture. The determinants of health. *Health Impact Assessments (HIA)* WHO, Media centre

Willett, W. C., Sacks, F., Trichopoulou, A., Drescher, G., Ferro-Luzzi, A., Helsing, E., Trichopoulos, D. (1995) Mediterranean diet pyramid: a cultural model for healthy eating. *American Journal Clinical Nutrition* (61), 6 Suppl, 1402S-1406S.