

Organization and financing of public health services in Europe

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Health Policy Series

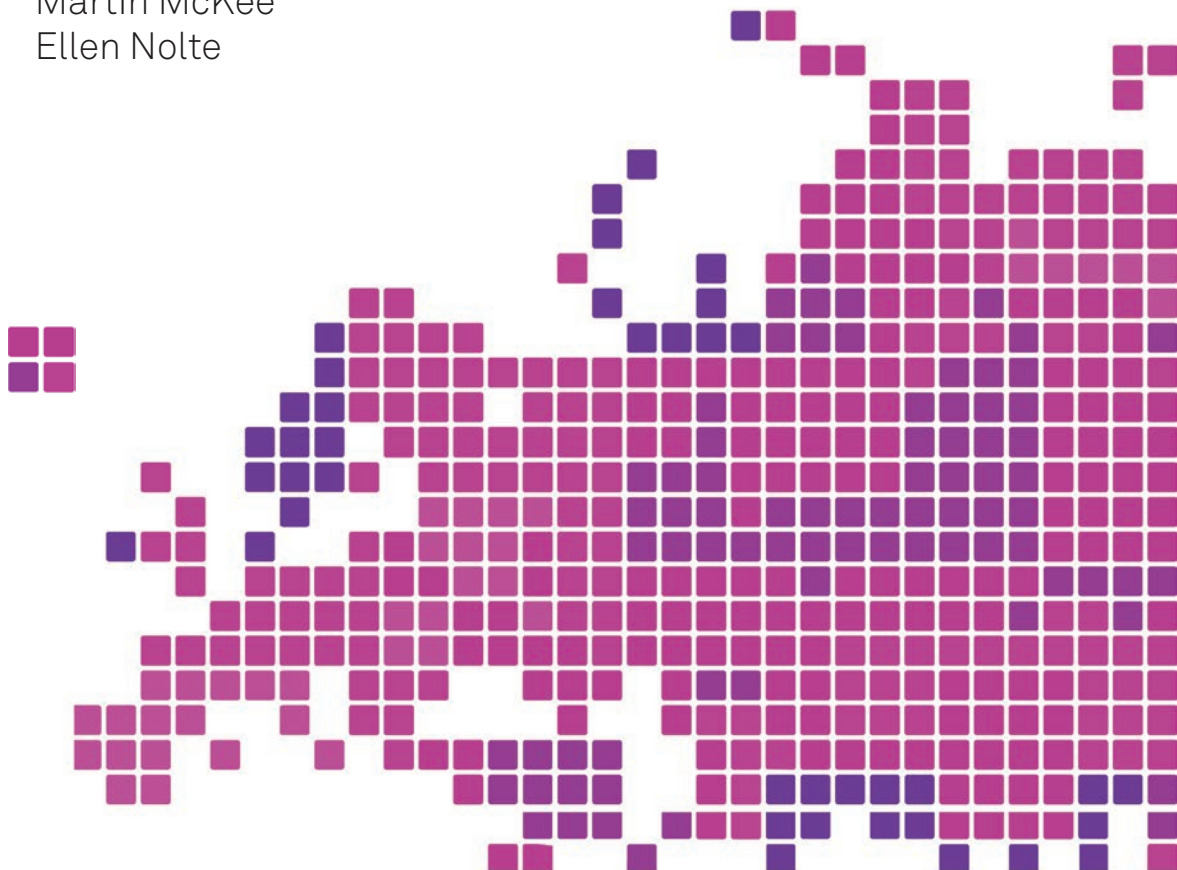
Edited by:

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Edited by

**Bernd Rechel
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Chapter 1

Introduction

Bernd Rechel, Elke Jakubowski, Martin McKee, Ellen Nolte

Health systems exist to improve health. They do so in many different ways. Some involve interactions between individual health workers and patients. Others involve actions by health workers on behalf of populations. This book is about the second group. It examines how services that take a population perspective are organized and funded in different parts of Europe. What roles do they assume? What do they do? And how can they learn from each other's experiences?

Those who look after the health of the population can be found in many different settings. Some are in specialized technical agencies. Others are in government departments, both central and local. Yet others are embedded in the health care system. Wherever they are, they comprise what we here term the public health workforce.

From the origins of these roles in the industrial revolution (although some of their roles can be traced back much further), the public health workforce has contributed greatly to improving the health of populations. Sometimes this is highly visible, as when they intervene to prevent the spread of an epidemic. More often it is largely invisible, taking place outside the public gaze, but equally important for safeguarding health. Overall, there is much to celebrate.

Yet, stepping back momentarily to take stock, it is also clear that there is still much to be done. Clean water, safe food supply, and immunization have virtually eliminated many once common infectious diseases (although the resurgence of measles in unvaccinated populations challenges any complacency), but new ones have replaced them, taking advantage of new ecological niches. The promise of antibiotics has given way to fears about a future dominated by antimicrobial resistance, with multiresistant tuberculosis acting as a wake-up call. Successes against infection, coupled with many other medical advances, have allowed many more people to live into old age. But despite some success against the major risk factors, in particular tobacco (although the fundamental

cause of tobacco-related death is far from defeated), there has been limited success against the producers of other harmful products, such as junk food and sugar-sweetened beverages (WHO, 2015). Looking more broadly, humanity faces profound threats to population health from pollution and climate change (Watts et al., 2017; Landrigan et al., 2018).

For all these reasons, public health services in European countries need to be better prepared to respond appropriately to major public health challenges. It is against this background that there is renewed interest in the organization and financing of public health services and the strengthening of the public health workforce more broadly. Countries are increasingly seeking information on what organizational, financial and workforce arrangements work best, in what circumstances, and what can be learnt from ongoing reforms of public health services in Europe.

Health 2020, the health policy framework of the WHO European Region, further emphasizes the need for public health action, especially by means of intersectoral policies (WHO, 2012a), with concerted action to strengthen public health services and capacity across Europe (WHO, 2012b). Such actions can exploit a window of opportunity. The 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDG) provide a renewed impetus for policies to promote health, not just through SDG 3, to improve health and well-being, but through many of the others that address the determinants of health, including clean air, safe water, adequate nutrition, and protection from violence. Public health services have a key role to play in achieving these goals.

Yet, at a time when an effective public health system is more important than ever, there is still a significant lack of understanding about how best to organize and finance public health services in ways that enable them to respond adequately to contemporary and future challenges and to achieve sustainable health systems. There is a sizable body of published work that has examined contemporary public health services. For example, Rechel & McKee (2012) reviewed organizational models for delivering essential public health operations in Europe while Aluttis and colleagues (2013) focused on public health capacity in the European Union. These two studies provided a valuable overview of the most common arrangements in place across European countries. Other work has looked at the use of intersectoral governance tools and instruments to address population health challenges (McQueen et al., 2012), synthesized the evidence on public health practice in Europe (Rechel & McKee, 2014), or evaluated the impacts of health policies on population health in Europe (Mackenbach & McKee, 2013). Several European countries have also carried out, in collaboration with the WHO Regional Office for Europe, in-depth

assessments of their public health capacities and services, while country-specific information on public health structures, capacities and services in Europe is also available from the health system reviews (the HiT series) produced by the European Observatory on Health Systems and Policies.

However, while all these studies provide important insights into a range of issues relating to public health policies and functions, there is still a lack of a systematic assessment of the different ways in which European countries organize and finance public health services and the contextual factors that influence their choices. In the absence of such information, public health practitioners and policy-makers at all levels must rely on general organizational theory or anecdote and intuition when reforming public health structures and institutions. Crucially, the absence of this information constrains the scope for learning from experience and innovation across countries.

What this book aims to achieve

This study seeks to fill some of these gaps in our understanding of public health services in Europe (Box 1.1). Specifically, it aims:

- To provide an in-depth analysis of the organization and financing of public health services, including the public health workforce, drawing on a review of existing evidence and in-depth reviews of nine European countries.
- To identify policy lessons for cross-country learning, as well as options for policy-makers at national and subnational levels who wish to reform their public health organizations and services.

Box 1.1 *Key questions this volume seeks to address*

- How are public health services in Europe organized? Are there good practices that can be emulated? What policy options are available?
- How much is spent on public health services? Where do resources come from? And what was the impact of the economic crisis?
- What do we know about the public health workforce? How can it be strengthened?
- How is the quality of public health services being assured? How should quality assurance systems for public health services look like?

This book will be of interest to policy-makers considering reforms of public health services and structures as it reviews efforts across Europe to strengthen public health capacities and services. It will also be of relevance to those wishing to learn about the experience of other countries or to see how public health

services in their country compare to those in others. This includes government advisers, professionals, managers, researchers, and the general public.

How we approached the work

This book draws on a review of existing evidence, reports on the organization and financing of public health services in nine European countries (Rechel et al., 2018a) and an in-depth analysis of the involvement of public health services in addressing three contemporary public health challenges (alcohol, obesity and antimicrobial resistance) (Rechel et al., 2018b). The focus is on three core dimensions of public health services: organization, financing, and the public health workforce (Box 1.2).

Structure of the book

This book consists of seven chapters. We begin by setting out the aims of the study and its methodological and conceptual approach (Chapters 1 and 2). Chapters 3–6 then present the main findings related to the organization and financing of public health services (Chapters 3 and 4), the public health workforce (Chapter 5), and quality assurance of public health services (Chapter 6). We close with Chapter 7 which brings together the main findings of the study and presents some key policy lessons that this work provides.

Following this introductory chapter, **Chapter 2** sets out a conceptual framework for analysing public health services. It clarifies what the essential public health operations (EPHOs) are, including the two enabling operations (organization and financing; and workforce) that are analysed in this volume.

Chapter 3 provides an overview of the main ways of organizing public health services in Europe. It argues that structures matter for any attempts to improve public health services. The Chapter begins by outlining the main actors involved, the principle institutional mandates and roles, and the forms and features of the organizational design of public health services in Europe. It then describes the different degrees of centralization and decentralization, and models and features of horizontal organization, such as partnerships and networks. This is followed by a discussion of organizational and institutional change and the conditions for successful implementation of public health policies and reforms. The conclusion points to resistance to changing public health organizations and calls for better alignment between institutional structures and population health goals.

Box 1.2 *Our approach to this study*

We commissioned in-depth reviews of the financing and organization of public health services in nine countries; reviews also included an assessment of countries' approaches to addressing selected public health challenges. Reviews were carried out by experts in each of the countries selected. Country experts were identified through the networks of the WHO Regional Office for Europe, European Public Health Association (EUPHA), Association of Schools of Public Health in the European Region (ASPHER) and the European Observatory on Health Systems and Policies. Authors are recognized experts in the area of public health systems and policies.

Countries included for review were selected on the basis of geographical location and population size, general approach to public health services organization and financing, key features of the health system as they relate to the organization and financing of health care, and the feasibility of undertaking in-depth reviews. Based on these considerations we selected the following countries: England, France, Germany, Italy, the Netherlands, Slovenia, Sweden, Poland, and the Republic of Moldova.

Data collection was guided by a detailed template, which was informed by existing evidence on public health services in Europe (Aluttis et al., 2013; Rechel & McKee, 2014), as well as the assessment instruments developed by the Centers for Disease Control and Prevention in the United States for National Public Health Performance Standards (CDC, 2014).

Country experts were asked to adopt an evidence-based approach, making use of the best data available, and using all relevant sources, including completed/ongoing research projects, policy documents, the scientific literature, and routine statistics or surveys related to public health services.

The documentary analysis was complemented by semistructured in-depth interviews with key informants, undertaken by the Observatory and the WHO research team in October 2016–January 2017. The interviews were based on a topic guide, conducted via telephone or Skype and (where possible and upon consent) recorded and transcribed for further analysis.

Chapter 4 investigates the financing of public health services in Europe. It provides a typology of public health financing, sketches out the main service categories used, and pulls together the information available from national sources and international databases. The chapter then provides an overview of total expenditure on public health, the impact of the economic crisis on financing public health services, expenditure categories, and sources of financing for public health. The chapter concludes that there is still a long way to go in the harmonization and standardization of how financing data are captured and

accounted for, but that available data point to worrying funding constraints, despite the proven benefits of public health interventions.

Chapter 5 explores the training and employment situation of public health workers in Europe, considering both the “core” and the “wider” public health workforce. It describes some of the challenges in estimating the size of this workforce in Europe and the need for intersectoral working to address the changing determinants of health. The chapter argues for the need to professionalize the public health workforce across Europe, to strengthen continuing professional development, and provide clear job descriptions and career paths to recruit and retain highly qualified professionals.

Chapter 6 reviews efforts to ensure the quality of public health services. It begins by defining quality in health and outlining principal approaches to quality assessment and assurance. The chapter then provides an overview of the structures and processes that countries have put in place to ensure the quality of public health services, describing the key actors involved and the general processes being used, including specific instruments such as standards and guidelines, accreditation and licensing, and monitoring and evaluation procedures. The chapter calls on policy-makers and researchers to develop and institutionalize national and regional quality assessment and reporting frameworks for public health.

The final **Chapter 7** draws together the key findings and policy lessons of the study. It argues that the conclusions emerging from the study are relevant to many countries in Europe. The chapter outlines some of the key challenges in organizing, financing and staffing public health services, as well as important policy tools that could be used to initiate and sustain change and support public health action at national and local level.

References

Aluttis C, Chiotan C, Michelsen K, Costongs C, Brand H (2013). Review of Public Health Capacity in the EU. Luxembourg: European Commission Directorate General for Health and Consumers.

CDC (2014). National Public Health Performance Standards Program. Atlanta: Centers for Disease Control and Prevention. (<https://stacks.cdc.gov/view/cdc/39202/Print>, accessed 14 June 2018).

Landrigan PJ, Fuller R, Acosta NJR, Adeyi O, Arnold R, Basu NN et al. (2018). The Lancet Commission on pollution and health. *Lancet*.391(10119): 462–512.

Mackenbach J, McKee M eds. (2013). *Successes and failures of health policy in Europe over four decades: Diverging trends, converging challenges*. Maidenhead: Open University Press.

McQueen D, Lin V, Wismar M, Jones C, St-Pierre L, Davies M eds. (2012). *Intersectoral governance for Health in All Policies*. Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies.

Rechel B, McKee M (2012). *Preliminary review of institutional models for delivering essential public health operations in Europe*. Copenhagen: WHO Regional Office for Europe

Rechel B, McKee M eds. (2014). *Facets of public health in Europe*. Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies.

Rechel B et al. eds. (2018a). *Organization and financing of public health services in Europe: Country reports*. Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies.

Rechel B et al. eds. (2018b). *The role of public health services in addressing public health problems in Europe: the case of obesity, alcohol and antimicrobial resistance*, Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies.

Watts N, Amann M, Ayeb-Karlsson S, Belesova K, Bouley T, Boykoff M et al. (2017). *The Lancet countdown on health and climate change: from 25 years of inaction to a global transformation for public health*. *Lancet*.391(10120):581-630. doi: 10.1016/S0140-6736(17)32464-9.

WHO (2012a). *Health 2020 policy framework and strategy*. Copenhagen: WHO Regional Office for Europe

WHO (2012b). *European action plan for strengthening public health capacities and services*. Copenhagen: WHO Regional Office for Europe.

WHO (2015). *The European health report 2015. Targets and beyond – Reaching new frontiers in evidence*. Copenhagen: WHO Regional Office for Europe.

Chapter 2

Conceptual framework

Bernd Rechel, Elke Jakubowski, Martin McKee, Ellen Nolte

Introduction

This chapter sets out the conceptual framework used for the study of public health services. It clarifies what is meant by the terms “public health”, “public health operations” and “public health services”.

Public health

What is public health? Although the term is widely used, the meaning attributed to it in different circumstances is not always clear. Crucially, understandings of public health vary among countries in Europe and the term is difficult to translate into some European languages (Kaiser & Mackenbach 2008; Tragakes et al., 2008). Although there is no generally accepted definition, a concept paper of the WHO European Region concluded in 2011 that the definition of public health put forward in 1988 by Sir Donald Acheson, and based on an earlier definition by Winslow (1920), serves as a useful point of departure (Marks et al., 2011). Acheson defined public health as “the science and art of preventing disease, prolonging life and promoting health through the organized efforts of society” (Acheson, 1988).

Public health operations

The next question then is what kinds of actions are needed to achieve these goals. What are the most important public health activities? A number of “essential public health functions” have been suggested in different parts of the world (WHO, 2009), including the United States (US Department of Health and Human Services, 1995) and the United Kingdom (Faculty of Public Health Medicine, 2001). An international Delphi study conducted in 1997 came up

with another set of essential public health functions (Bettcher et al., 1998), which were subsequently modified by the Pan American Health Organization and the WHO Regional Office for the Western Pacific (WHO, 2002; WHO, 2003).

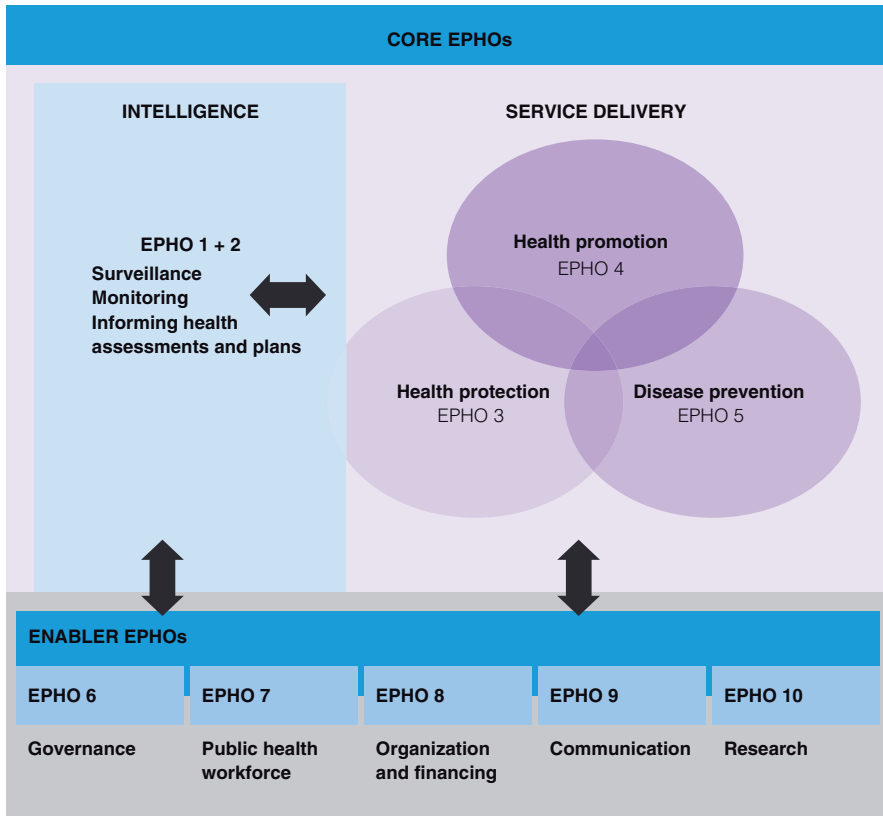
An adaptation of these “essential public health functions” has been put forward by the WHO Regional Office for Europe in the form of 10 “essential public health operations” (EPHOs). EPHOs can guide assessments of public health capacities and services, as well as the actions required to strengthen them (WHO, 2012). They also have the benefit of identifying horizontal activities across the whole political and administrative spectrum of policy-making, rather than focusing on the activities of specific institutions (Koppel et al., 2009).

The latest iteration of EPHOs was published by WHO in 2015 as part of the self-assessment tool for the evaluation of essential public health operations in the WHO European Region (WHO, 2015):

1. Surveillance of population health and well-being;
2. Monitoring and response to health hazards and emergencies;
3. Health protection including environmental, occupational, food safety and others;
4. Health promotion, including action to address social determinants and health inequity;
5. Disease prevention, including early detection of illness;
6. Assuring governance for health;
7. Assuring a competent public health workforce;
8. Assuring organizational structures and financing;
9. Information, communication and social mobilization for health;
10. Advancing public health research to inform policy and practice.

EPHOs can be divided into core and enabling operations (WHO, 2003). EPHOs 1–5 can be thought of as core public health operations, while EPHOs 6–10 are overarching operations that enable the delivery of public health activities (Fig. 2.1).

This volume focuses on the two enabling EPHOs concerned with assuring sustainable organizational structures and financing and assuring a sufficient and competent public health workforce.

Fig. 2.1 *The 10 essential public health operations*

Source: Adapted from WHO, 2015

Note: EPHO: essential public health operation.

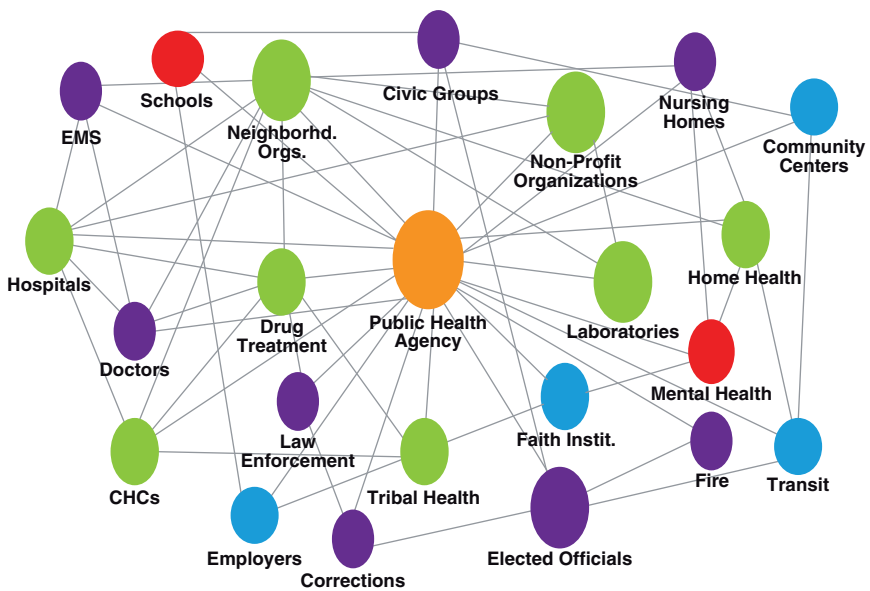
Public health services

The term “public health services” is problematic because it is ambiguous. “Services” can refer to processes that are undertaken or to the organizations that undertake them. However, with public health, the organizations involved vary widely, sometimes even within the same country. They often reflect decisions about how particular responsibilities should be distributed among ministries or tiers of government, and cultural and professional norms, such as whether an activity should be undertaken by the medical profession or not. Consequently, given that the structures that deliver public health processes are so culturally embedded, it makes little sense to try to compare them. Instead, the focus has been on those processes, and the totality of actors in any setting that provide them, that are considered to be the “public health system”. This, in turn, can be defined as “all public, private, and voluntary entities that contribute to the delivery of essential public health services within a jurisdiction” (CDC, 2017).

The conceptualization of public health services as processes that take place has the advantage of ensuring contributions by all relevant entities. It has the disadvantage of precluding any attempt, at least in respect of the overall system, to make comparisons about budgets, staffing and the like, given that many of these organizations will do things other than public health and it is often impossible to differentiate their public health budgets and workforces from their other roles.

An example of a public health system given by the United States Centers for Disease Control and Prevention is shown in Fig. 2.2.

Fig. 2.2 A public health system



Source: CDC, 2017

Note: EMS: Emergency medical services; CHC: Community health centres.

Despite the logic of this approach, there is often a desire to focus on structures or agencies involved, which can be considered the public health delivery systems. This is particularly the case when the term “public health service” is used in the singular. It then tends to refer to a defined structure, usually in the public sector. While there is thus only one English expression with two very different meanings, in some other languages this distinction comes out more clearly. In German, for example, there is a clear difference between *Gesundheitsdienst* (the structure providing public health services) versus *Gesundheitsdienstleistungen* (the public health services being provided).

In the current volume “public health services” are understood as the services that are being provided, rather than the structures that provide these services.

In the country studies that underpin the analysis presented here (Rechel et al., 2018a), the main focus was on public health delivery systems, mainly public sector organizations with a clear mandate for public health.

Financing for public health

The changing way that expenditure on public health is captured in official statistics can further illuminate the issues at stake, as will be discussed in more detail in Chapter 4. In the System of Health Accounts, used by OECD, WHO, and the European Union (EU) to capture health expenditure in a uniform way, there has been a shift in thinking of “public health services” away from the organizations providing them and towards the services being provided. In an earlier version of the System of Health Accounts, SHA 1.0, expenditure categories were based on a mix of criteria: “public” referred at the same time to government-financed services, place of delivery (publicly owned services) and the beneficiaries involved (population groups). According to the newest, 2011, edition of the System of Health Accounts, “prevention and public health services” are defined as “services designed to enhance the health status of the population as distinct from curative services, which are seen as repairing health dysfunction. Typical public health services are vaccination campaigns and programs” (OECD/Eurostat/WHO, 2011). Subcomponents include maternal and child health, school health services, prevention of communicable or noncommunicable diseases, and occupational health care (see Chapter 4 Financing of public health services).

Conclusion

This chapter has explored some of the key terms used in this volume. While there have been considerable efforts by international and national agencies working in public health to clarify the terms used to describe public health activities and structures, there remains much uncertainty and ambiguity. This challenge can only partly be resolved by definitional exercises and expert consensus. What matters at least as much, if not more, is how public health activities and structures are conceptualized and perceived at the national and local level in the vastly differing countries that comprise Europe. The remaining chapters of this book aim to shed more light on these issues.

References

Acheson D (1988). Public health in England. Report of the Committee of Inquiry into the future development of the public health function. London: HMSO.

Bettcher D, Sapirie S, Goon E (1998). Essential public health functions: results of the international Delphi study. *World Health Statistics Quarterly*. 51:44–54.

CDC (2017). The public health system and the 10 essential public health services. Atlanta: Centers of Disease Control and Prevention. (<https://www.cdc.gov/nphpsp/essentialservices.html>, accessed 23 May 2018).

Faculty of Public Health Medicine (2001). Strengthening public health function in the UAE and EMR of the WHO. London: Royal Colleges of Physicians of the United Kingdom.

Kaiser S, Mackenbach J (2008). Public health in eight European countries: an international comparison of terminology. *Pub Health*.122(2):211–6.

Koppel A, Leventhal A, Sedgley M eds. (2009). Public health in Estonia 2008. An analysis of public health operations, services and activities. Copenhagen: WHO Regional Office for Europe.

Marks L, Hunter DJ, Alderslade R (2011). Strengthening public health capacity and services in Europe. A concept paper. Copenhagen: WHO Regional Office for Europe.

Mays GP, Smith SA, Ingram RC, Racster LJ, Lamberth CD, Lovely ES (2009). Public health delivery systems. *Am J Prev Med*.36(3):256–265.

OECD/Eurostat/WHO (2011). A System of Health Accounts, 2011 edition. Paris: OECD. (http://www.who.int/nha/sha_revision/sha_2011_final1.pdf, accessed 23 May 2018).

Tragakes E, Brigis G, Karaskevica J, Rurane A, Stuburs A, Zusmane E et al. (2008). Latvia: Health system review. *Health Systems in Transition*.10(2):1–253.

US Department of Health and Human Services (1995). For a healthy nation: returns on investment in public health. Washington, DC: US Department of Health and Human Services.

WHO (2002). Essential public health functions: the role of ministries of health. Manila: WHO Regional Office for the Western Pacific.

WHO (2003). Essential public health functions. A three-country study in the Western Pacific Region. Manila: World Health Organization Regional Office for the Western Pacific.

WHO (2009). Evaluation of public health services in Slovenia. Copenhagen: WHO Regional Office for Europe;

WHO (2012). European Action Plan for Strengthening Public Health Capacities and Services. Copenhagen: WHO Regional Office for Europe.

WHO (2015). Self-assessment tool for the evaluation of essential public health operations in the WHO European Region. Copenhagen: WHO Regional Office for Europe.

Winslow C-EA (1920). The untilled fields of public health. *Science*.51 (1306):23–33.

Chapter 3

Organization of public health services

Elke Jakubowski, Hans Kluge, Bernd Rechel

Introduction: why look at structures?

Many countries in Europe face common population health challenges, including a growing burden of noncommunicable diseases with inadequate implementation of consistent and effective public health interventions. There are also persisting, re-emerging and newly evolving communicable diseases which require a response by public health institutions. At the same time there is a recognition that many causes of ill-health, such as environmental pollution or the composition and pricing of processed food, lie outside the health system and require intersectoral collaboration. Developments in information technologies provide new challenges, but also new avenues for public health action. Finally, there is increasing recognition that many public health interventions are highly cost-effective, especially when applied at population level (WHO, 2014a; Masters et al., 2017).

Yet, the institutions charged with providing public health services seem to be particularly slow in responding to new population health challenges and to utilizing new opportunities in tackling them. For instance, in many postcommunist countries public health institutions have retained their traditional focus on sanitary and environmental supervision and the control of communicable diseases, not yet adopting policies to address the upstream determinants of health; for example by tackling pricing, availability, and marketing of harmful substances (WHO, 2012c). This resistance to change is likely to be due to a number of factors, including lack of skills in modern public health in an ageing workforce, reliance on historical administrative arrangements, and lack of resources.

Although institutional arrangements for the provision of public health services have received much less attention in recent years than their functions, they are of interest to policy-makers. This is not surprising. Organizational features can have a considerable influence on the way essential public health functions are delivered and public health services provided. Public health institutions – together with many other actors – are potential drivers for implementing public health visions, policies, and transformations.

Some caution is, however, needed. The structure of public health services is primarily dictated by the constitutional situation in each country. This has several dimensions. First, to what extent powers and responsibilities of government are centralized or decentralized. Within Europe, countries vary from a confederation (Switzerland) where most powers are retained by the cantons; through federal states, such as Germany, Belgium, or Austria, where national power is explicitly shared between the national government and regions, with many functions devolved to the regions; to those with substantial regional autonomy, such as Spain or Italy; and finally to unitary states, such as Iceland or Luxembourg. Some countries have added complexity, with the United Kingdom comprising four nations, each with differing degrees of autonomy, while it, along with France, the Netherlands, and Denmark, also has responsibility for overseas territories. Second, countries vary in the extent to which certain functions are seen as lying within the scope of government. Thus, a minimalist view, advanced by some free-market commentators, would limit the role of the state to the judiciary, arguing that everything else, including armed forces and policing, could be contracted to private operators. In contrast, others argue, on strategic and other grounds, that the state should assume responsibility for large parts of the economy. These views do not always follow strict ideological divisions. Thus, in the United States there is widespread acceptance that the government should run the postal service. Yet this has been privatized in some European countries.

Consequently, the level at which a public health function is found in a given country, and its relationship with the state, often has little or nothing to do with considerations of public health. What matters is whether different public health functions are located at the level where they can make a difference, where the appropriate political or regulatory power lies. Then, the debate about whether a function should be inside or outside the state apparatus becomes, largely, a political issue, although in an ideal world the growing evidence base challenging views that favour privatization would be taken into account.

Notwithstanding the limited ability to do anything about organizational structures for delivering public health functions, policy-makers often express an interest in the models that have been adopted in other countries. This chapter explores how designated providers of public health services are organized in selected European countries and what reforms have been undertaken in this area. It starts by clarifying what is meant by “organization of public health services” and related terms. The chapter then describes recent developments in core mandates and functions of public health organizations. This is followed by an analysis of principle forms and features of organizational design, describing organizations along the two dimensions of vertical and horizontal structures. Geographical distribution is also considered, in particular as it relates to urban and rural settings. The chapter then explores levers for institutional reforms in public health, followed by a description of ways for framing institutional change, looking at policy objectives, legal frameworks, and, to the limited extent possible, ways for implementing change. Finally, the chapter sets out policy implications and conclusions (Box 3.1).

Box 3.1 *Key questions this chapter seeks to address*

- How are public health services in Europe organized?
- What is the role of different administrative levels and how can they be coordinated?
- How can organizational and institutional change be achieved?
- Are there good practices that can be emulated?
- What policy options are available?

The organization of public health services: clarifying meanings

As mentioned above, the organization of public health services has received rather little attention from researchers so far. This is despite the existence of a large body of literature on constitutional structures, looking at how responsibilities are distributed within states and how accountability is ensured. However, this has tended to focus on areas such as education, curative health care, or industrial policy, with public health failing to attract attention from political scientists. Another problem is the difficulty in defining, categorizing, and classifying the institutions involved. There is enormous variety in the organizations responsible for different public health functions, and even whether any is responsible for some public health functions at all. Even when responsibilities can be identified, the way that the functions are undertaken may vary so much as to render comparisons meaningless.

While recognizing the severe limitations, and adding numerous caveats, in this study we use the term “organization of public health services” to describe the

institutional framework within which public health services and activities are provided. A “public health institution” corresponds to an organizational unit that provides public health services with the aim to protect, restore, promote, and improve the health of populations. The term “public” is important not only because it refers to the function associated with the notion of public health. It also indicates the role of the public sector in shaping, designing, and providing the organizational infrastructure for public health services.

As already noted, similar to other types of health institutions a “public health institution” can include diverse structures and it is not straightforward to describe, classify and categorize “public health institutions”. A first challenge is that the term “public health” subsumes a plethora of different activities and is often understood differently in different countries (see Chapter 2 Conceptual framework). Second, there will be wide variations in the institutional correlates of “public health institutions”, ranging from an administrative unit in which national health promotion campaigns are designed to a community centre that provides immunization and health counselling services. Third, public health services are usually spread across a wide range of institutions and programmes. Leadership, responsibility, and accountability for population health is often dispersed and not concentrated in a single institution (Bloland et al., 2012). This can make it difficult to delineate institutional boundaries and infrastructures. Many responsibilities in public health are dispersed in horizontal relationships across sectors (Kickbusch & Gleicher, 2011).

Who provides public health services?

Some further clarity about what qualifies as a public health institution can be derived by looking at the type of organizations that coordinate or provide public health services. Most often, the institutions coordinating public health services are ministries or public authorities at the national, regional, or local level. Coordinating and providing public health services covers only part of the essential public health functions, but it is a crucial component directly amenable to policy intervention. When it comes to the provision of public health services, such as the control of environmental health or food safety, subordinate public agencies tend to be involved. Other ministries or public agencies or departments coordinate or provide complementary public health services, for instance with regard to environmental matters, consumer protection, or agriculture. Health care providers offer public health services such as health promotion and primary, secondary, and tertiary prevention services. Research institutions often have designated responsibilities for improving the knowledge base of public health services. Finally, nongovernmental organizations (NGOs) are often involved in the provision of public health services (Table 3.1).

Table 3.1 *Main types of institutions coordinating and providing public health services*

	Governmental authorities	Public health offices	Health care providers	NGOs
Ownership	Public	Public	Can be private (for profit or not for profit) or public	Third sector, often not for profit
Main responsibility	Coordinating services, policy-making, regulation, supervision, inspection	Providing public health services at individual and population health services level (health protection, health promotion, disease prevention)	Providing public health services at individual level	Providing public health services at individual and population health services level
Organizational characteristics	Units at national and subnational levels	Usually forming a hierarchical relationship of offices at national, regional and local level	Various organizational forms depending on health system design	Various organizational forms at international, national and subnational levels

Health care services and public health services have different historical roots, underpinned by different philosophies, while they differ in their primary goals (individual health versus population health), as well as in their organizational forms. They also typically have different accountability and reporting arrangements. However, as there are increasing overlaps and common interests it is now often difficult to separate them out and there are explicit calls for better integration between health care and public health services. In most European countries, primary health care is tasked with designated public health functions, in particular with regard to screening and vaccination services.

Institutional mandates and roles

This section seeks to summarize core institutional mandates and roles, based on an earlier study on the same topic (Rechel & McKee, 2014). It explores how core public health functions are related to the organization of public health services. The following functions are considered: setting strategic directions, health monitoring, health protection, health promotion and disease prevention, and public health research.

In most large countries, the coordination and provision of public health services is a shared responsibility between the national and regional level of government. Most often, those at the national level are responsible for central processes

such as regulation, priority-setting, supervision, inspection and international collaboration, while lower administrative levels are mainly in charge of service provision. Depending on the country and population size, there may also be shared responsibilities between regions and municipalities.

Many public health institutions are hybrids in functional terms, combining different public health functions. For example, they might play a governance role (such as policy formulation, regulation, planning and supervising public health activities), but also have responsibilities for coordinating and providing services. The demarcation of core responsibilities can therefore be more difficult than for health care providers.

Setting strategic directions and goals

In most European countries, formal instruments and mechanisms are in place to ensure accountability in health systems. They include mechanisms for priority-setting, national health strategy development, strategic planning, target setting, performance measurement and performance reviews. The use of these mechanisms has increased in recent years, partly inspired by Health 2020, the WHO European policy framework for health and well-being (WHO, 2015). The mechanisms involve processes or programmes that have been either formally established (for instance by law, or as part of institutional mandates) or result from informal initiatives. They are usually designed around a systematic framework, such as in the development of a national health policy with longer term horizons (5 to 10 years). Another example is a strategic health plan, which is usually developed for a medium term, is more operational in nature, and assigns responsibilities to specific institutions in the health sector. In countries in which decision-making on public health policy development is less centralized, such as in Germany and Austria, health target programmes have become the predominant form of setting priorities and strategic directions for population health.

Typically, these mechanisms are not kept separate for health care and public health services but are integrated, to varying degrees. They can also be combined formally. For instance, a strategic health plan can operate in combination with a health system performance assessment framework, and a national target programme can work in combination with a national health strategy. The degree to which policy decisions are influenced by these mechanisms differs and is often less dependent on the choice of instruments and more on system features (e.g. the degree of centralized or decentralized decision-making). A prevailing feature in many countries are national priority frameworks, established to inspire and inform subnational strategies. At the subnational level, public

health institutions or regional and local authorities have often some degree of flexibility to adjust national frameworks to regional or local requirements, needs and demands. Box 3.2 illustrates some examples of past and ongoing processes to set priorities, strategic directions, as well as goals and targets for public health policy-making.

Box 3.2 *Examples of processes and institutions for setting strategic directions for public health services*

Health targets in Austria

The 10 health targets in Austria were developed as part of a multistakeholder effort with the aim of achieving more healthy life years for people in Austria. A particular feature was the adoption of the targets by the Council of Ministers in 2012, reflecting joined-up cross governmental responsibility for progress. On the implementation side, these targets are viewed as guiding orientation of the sector. A detailed implementation plan was anticipated to foster cooperation across institutions (Federal Ministry of Health and Women's Affairs, 2017). Institutionalization however is linked to national strategies and collaborative platforms, rather than to specific roles of individual institutions.

National Health Plan of Estonia 2009 to 2020

In Estonia, the National Health Plan was developed in a process involving a wide range of institutions, including international organizations, ministries, county governments, local governments, NGOs, private sector representatives and interest groups. The overall goal is defined as longer healthy life expectancy. Five thematic areas are set out, including strategic objectives and implementation measures with quantitative and qualitative targets (Ministry of Social Affairs, 2012).

National Prevention Plans in Italy

Since 2005, national prevention plans have been developed every three years, providing guidance on the overall direction of public health and outlining the main elements of health promotion and disease prevention. The regions transpose national plans into regional plans. A regional plan has to be developed within 150 days of the introduction of the national plan and is subject to review by the national health ministry for consistency with the national plan. The regional plans then feed into local executive plans (Poscia et al., 2018).

Strategies for health improvement in England

The current strategy framework in England is determined by the 2010 White Paper on "Healthy lives, healthy people: our strategy for Public Health in England" that emphasizes the role of local governments and communities in protecting the health of their catchment population, adopting a lifecourse approach in reducing health inequalities and improving the population's health. An outcome framework was launched that provides indicators to monitor public health outcomes at the local level.

As these examples illustrate, most mechanisms for setting health policy priorities are coordinated by central government. Public health institutions often contribute to the design of strategic plans and can also play a role as implementing agents. However, only a few strategies attribute institutional responsibilities to specific public health organizations in terms of implementation and monitoring. Some countries, such as England, France, Germany, Italy, and Sweden, have in recent years expanded the role of national health technology assessment agencies to assess the cost–effectiveness or cost–benefit of public health interventions.

Health monitoring

Health monitoring is the first of the essential public health operations as defined by WHO Europe in 2012 (see Figure 2.1). It enables the systematic and continuous tracking of health indicators, and indicators that are relevant for health and well-being. Public health reporting is one of the most common mandatory tasks of public health institutions in countries of the WHO European Region. However, public health reporting tends to differ markedly in its depth, breath, coverage and frequency. For instance, various national health institutes in northern and western European countries have seen their mandates extended in recent years to monitor noncommunicable diseases. An example is the Robert Koch Institute in Germany, that has gradually taken over noncommunicable disease monitoring and reporting in its regular health status report.

Health protection

Key aspects of health protection include health security, occupational health and environmental health services. Institutional arrangements for health protection are typically fluid, integrated, and build on intersectoral collaboration mechanisms that cross institutional boundaries. In the United Kingdom, for example, Parliament is responsible for making legislation and the executive for implementing it, including through the activities of government agencies. Policies derived from the legislation may be developed by individual ministries or, in some cases, interministerial cabinet committees. Parliament then has the ability, through its select committees, to hold the executive to account.

Institutions engaged in environmental health protection must have the ability to monitor aspects of the environment that may have an effect on population health (Leonardi & Rechel 2014; WHO, 2014b). However, many elements may lie outside the responsibility of the health ministry, involving sectors such

as housing, transport, agriculture, and employment. Consensus on the urgency and means of addressing developments through the public health infrastructure is often lacking (WHO, 2012).

Occupational health services are important settings for health protection in terms of preventing accidents and injuries, but they can also contribute to health promotion and disease prevention. Most occupational health services are provided at primary health care units in larger workplaces, whereas employees in smaller and medium-sized companies often do not receive services beyond a minimum (Kim et al., 2014). An earlier study has drawn attention to the deterioration of occupational health services in countries that have seen a trend to deregulate, privatize and outsource public services, but occupational health services in Europe have also seen a decline following the global financial crisis after 2007 and an increase of precarious working conditions (White, 2015).

Health care public health, disease prevention and health promotion

The separation of public health institutions from the provision of health care is somewhat artificial (McKee et al., 2014). The term “health care public health” refers to the roles of public health institutions (and public health professionals) to maximize health gains through the delivery of health care to individuals and population groups; however, this role is underdeveloped in most European countries or does not exist at all (McKee et al., 2014). In England, Health and Well-Being Boards were established by the Health and Social Care Act 2012 as a means of coordinating preventive and curative services. The Boards are established by local authorities and include representatives from the National Health Service (NHS), public health institutions, social and child care.

In most countries, public health institutions are involved in the coordination or implementation of disease prevention and health promotion programmes. They may also play a role in the coordination of screening programmes for cancer and inborn errors of metabolism. Health care providers, in particular at primary care level, are often crucial for the delivery of health promotion and disease prevention services. In some countries, NGOs also play a role in service provision, but their work is sometimes made challenging by the lack of systematic quality monitoring, a competent public health workforce, and sustainable financing.

There are marked differences between countries (WHO, 2012). Classical prevention services, including immunization and mother and child health services, are provided in primary health care settings in nearly all countries of the

WHO European Region, whereas the organization of screening programmes differs greatly across countries (WHO, 2012). An example of a country that has strategically enhanced public health functions at primary health care level is Slovenia (Box 3.3).

Box 3.3 *Scaling up public health services in primary health care in Slovenia*

In Slovenia, general practitioners are recognized as important actors in the delivery of public health services. There are also NGOs which provide specialized public health services in different areas of public health. Policy on primary health care now emphasizes prevention rather than treatment, including the early detection of diseases, and primary care has become a partner in implementing cancer screening services over the past decade. Financial incentives have facilitated the adoption of additional preventive tasks such as check-ups. A new family medicine framework introduced in 2011 has emphasized prevention and monitoring of the most prevalent noncommunicable diseases. The model seeks to reorient skill-mix, with an emphasis on family nurses. A new model of health promotion centres was piloted in three primary health care centres between 2013 and 2016, with plans for a roll-out by 2020 (Petrič & Maresso, 2018).

Box 3.4 presents examples of health promotion and primary, secondary and tertiary disease prevention services provided by GP practices or community health centres.

Box 3.4 *Examples of health promotion and disease prevention services provided by health care institutions*

Health promotion and disease prevention

- Tailored education, awareness, health advice and counselling on individual and family health risks and behaviour (tobacco and alcohol consumption; nutrition and breastfeeding; physical activity; substance, drug and medicines abuse; sexual and reproductive health; personal hygiene and sanitation; cardiovascular health; oral health; mental health).
- Community or facility-based vaccination of children, adolescents, adults, older people and groups at high risk (e.g. migrants or people with chronic conditions).
- Community outreach programmes targeting vulnerable populations (e.g. minority populations or hard-to-reach groups).

Secondary disease prevention

- Community outreach screening (for cardiometabolic risk factors, mental health and suicide risk, congenital malformation, domestic violence and child abuse).

- Screening of high-risk groups (e.g. people with cardiovascular conditions, hypertension, diabetes, cancer, and older people).
- Screening for mechanical, physical, chemical, biological, ergonomic, and psychosocial risks and hazards in the working environment by occupational health services and targeted at workers in the informal sector by primary care and community health offices.

Tertiary disease prevention

- Personal rehabilitation plans.
- Psychological support services.
- Social care, long-term care and palliative care at facilities and home, including support to volunteers and family caregivers.
- Patient support and self-aid.

Source: Authors' compilation

Research

Many public health institutions at the national level are involved in public health research, including in England (Public Health England), Germany (Robert Koch Institute), the Netherlands (National Institute for Public Health and the Environment), Italy (Istituto Superiore di Sanità), the Republic of Moldova, Portugal (Institute Ricardo Jorge), Slovenia, and Spain (Institute of Health Carlos III). Public health institutes at the subnational level tend to have more limited roles in research, reflecting limited capacity to attract project grants, whereas at least some research funding for national public health institutes is often allocated directly by the state.

Yet, the landscape for public health research is dynamic and differs greatly between countries. For instance, in France the coordination and financing of public health research was recently enhanced through several means. An initiative to coordinate public health research across the country led to the creation of the Institute for Research in Public Health that coordinates financing of public health research through competitive funding calls. There are also some regional institutes with a mandate to undertake public health research, such as the Public Health Institute for Epidemiology and Development in Rennes. Another recent development is the creation of France Assos Santé that represents 72 NGOs and aims to improve the use of health data for research in public health.

In the Netherlands, academic collaborative centres were set up in 2006 with government funding and a mandate to improve the evidence base on health promotion and forge collaboration between policy-makers, public health

professionals and researchers. However, it has proven difficult to steer research into directions serving the public interest and the programme was terminated in 2014, although some regional public health institutes are continuing the activities of academic collaborative centres.

In Germany, local public health offices do not have an explicit mandate to undertake public health research, although they are not prohibited from undertaking it either. They can undertake research with their own resources or can mobilize project funding. Often, they collaborate with universities, as they lack the research skills, facilities and overall capacity.

Principle forms and features of organizational design

The structure of public health services within a given country is dictated by the nature of governance structures, such as whether the country is centralized or federalized, and the extent to which responsibilities are given to local government (Dubois et al., 2006).

Forms and features of vertical organization

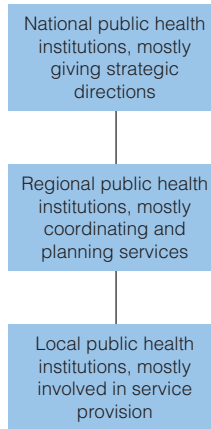
We identified three principal ways in which institutions providing public health services are organized vertically, some of which may operate in parallel within a country (Fig. 3.1):

- national public health institutions, mostly giving strategic directions;
- regional public health institutions, mostly coordinating and planning services;
- local public health institutions, mostly involved in service provision.

However, in several countries, there is a fourth layer of services or administration, so that there can be, for example, institutions at the regional, municipal and local level.

National public health institutions

National public health institutions usually assume specific responsibilities, such as population health monitoring, research, public health policy advice, inspection services or issuing guidance for public health professionals. Most countries in Europe have a national public health institution with similar mandates and roles. Table 3.2 exhibits functional and structural features of national public health institutes in selected European countries.

Fig. 3.1 *Principle vertical forms of institutions providing public health services*

Source: Authors' compilation

Regional public health institutions

Regional public health institutions can be independent organizational units or subordinate units of national agencies (Box 3.5). One of their tasks can be to provide public health services for lower levels of administration (e.g. municipalities) that do not have the capacity to provide these services themselves. In other cases, regional public health offices are mostly responsible for coordinating public health services. In some countries, such as France and Italy, regional public health offices have responsibilities for coordination and planning of public health services but are also tasked with some delivery responsibilities (e.g. for health protection, some disease prevention and health promotion).

Local public health institutions

Local public health offices exist in all European countries, but they differ in the degree of autonomy and the level of integration with local health authorities, health service providers and other sectors. At one end of the scale, there are examples of full autonomy (at least in some areas of public health) where national bodies delegate decision-making to local public health institutions. These then take on responsibilities for setting strategic priorities, establishing organizational structures and raising funds. At the other end of the scale, local public health institutions are branch offices of central or regional authorities without any decision-making authority. Public health authorities at the local level can create opportunities to integrate public health services into the municipal health policy process, although this potential is rarely realized in practice.

Table 3.2 Features of national public health institutions in selected European countries

Country	Name of central public health institute	Nature of institute	Responsibility and roles	Number of staff	Other examples of relevant national institutions
England	Public Health England	Executive agency of the Department of Health	<ul style="list-style-type: none"> a) Providing advice to the government b) Providing national health protection service c) Research on public health issues d) Providing expertise and knowledge sharing with subnational levels 	5 500	National Institute of Clinical Excellence; Health Education England; Healthwatch; UK Faculty of Public Health of the Royal College of Physicians; Royal Society of Public Health; Association of Directors of Public Health
France	Agence nationale de santé publique (since 2016)	Subordinate institute to the Ministry of Health	<ul style="list-style-type: none"> a) Analyse knowledge and data on health determinants and risk factors b) Provide evidence-based advice to decision-makers c) Propose measures to decision-making authorities to protect population health d) Develop evidence-based advice on prevention and health promotion e) Contribute to emergency preparedness and response 	625	High Council of Public Health; High Authority on Health
Germany	Robert Koch Institute	Subordinate institute to the Ministry of Health	<ul style="list-style-type: none"> a) Monitoring population health b) Providing evidence-based guidance on population health protection c) Providing evidence for decision-makers and the general public related to health protection d) Early detection of health risks e) Development of evidence-based norms and standards f) National reference laboratory 	1 150	Federal Centre for Health Education; German Institute for Medical Documentation; Paul Ehrlich Institute; Bernhard-Nocht-Institute

The Netherlands	National Institute for Public Health and the Environment (RIVM)	Independent research and advisory agency	<ul style="list-style-type: none"> a) Prevention and control of infectious diseases b) Promotion of public health and consumer safety c) Environmental protection d) Public health reporting 	1 500	Dutch Agency for Food and Product Safety; Health Care Inspectorate; Health Council; Council for Health and Society; Healthy Life Centre; Netherlands Public Health Federation
The Republic of Moldova	National Centre of Public Health	Subordinate institute to the Ministry of Health	<ul style="list-style-type: none"> a) Monitoring population health b) Providing methodological support to subnational public health institutions on disease prevention, health protection, health promotion and surveillance c) Early detection and response to health hazards and emergencies d) Public health research 	379	
Poland	National Institute for Public Health – National Institute of Hygiene	Governmental institution	<ul style="list-style-type: none"> a) Research and training b) Monitoring of biological, chemical and physical risk factors in food, water and air c) Control of diseases and infections 	330	Public Health Council; State Sanitary Inspectorate; specialized research institutes and state agencies
Slovenia	National Public Health Institute	Governmental institution, subordinate and accountable to the Ministry of Health	<ul style="list-style-type: none"> a) Assessing and monitoring public health b) Maintaining population health databases and national health reporting c) Surveys and research d) Risk assessments and surveillance e) Coordination and management of health promotion and prevention services 	457	National Laboratory for Health, Environment and Food; Institute of Occupational, Traffic and Sports Medicine

Table 3.2 *contd.*

Country	Name of central public health Institute	Nature of institute	Responsibility and roles	Number of staff	Other relevant national institutions
Sweden	Public Health Agency Sweden	Governmental institutions, subordinate to the Ministry of Health	a) Developing and supporting activities related to public health, including health promotion, disease prevention and health protection b) Coordination of environment and health and communicable diseases c) Population health monitoring	450	National Board of Health and Welfare; National Food Agency

Box 3.5 *Examples of regional public health institutions***England**

The national public health agency, Public Health England, maintains nine regional centres that are located within the four NHS regions North, South, London, and Midlands/East. These regional centres are responsible for health protection services in their geographical areas and provide advice and support to local authorities in the delivery of other public health services.

France

Following adoption of the 2009 Act on Hospitals, Patients, Health and Territories, initially 27 regional health authorities were created, reduced to 18 in 2016. Regional health authorities are responsible for the planning and regulation of health services, including health care and public health, as spelt out in regional health plans. Regional health authorities are free to choose their own organizational set up and some have a designated public health unit.

Germany

Regional public health offices at the federal state level exist in six of the country's 16 federal states (Bavaria, Brandenburg, Baden-Württemberg, Lower Saxony, North Rhine-Westphalia and Mecklenburg Western Pomerania). The presence of a regional public health office has substantially contributed to public health policy development in these federal states, as they have promoted regional public health conferences which have brought together various actors in public health.

Italy

Similar to France, regional health authorities play an important role in organizing, coordinating and ensuring the delivery of health services, including curative care and public health. They are also responsible for public health policy development and implementation. Public health services are provided by a network of local health authorities.

The Netherlands

In the Netherlands, the country's 393 municipalities have set up 25 regional public health offices to meet their legal obligations in the provision of local public health services. This approach aims to overcome limited capacities by some municipalities, but has also given rise to some challenges, such as a great variation in organizational structures and lacking administrative and political ownership, as the regional public health offices do not correspond to any administrative structure between the national and the municipal level.

Slovenia

Slovenia maintains nine regional public health institutions which have responsibilities for coordinating and delivering public health services, especially health promotion and disease prevention. With new legislation enacted in 2013, they directly report to the National Public Health Institute.

The existence of, and degree of independence afforded to, local public health offices usually reflects the political and administrative structures in the country and its health system and the degree of decentralization it has embraced. In Sweden, for example, there are self-governing municipalities, based on a tradition of local democracy. They are responsible for the welfare of their residents, providing services such as nursing homes for older and mentally ill people and environmental health services. In the Netherlands public health is understood as a shared responsibility between the central state and local government and the provision of public health services follows the principle of “decentralization unless”, shifting the balance of responsibilities to the country’s municipalities. In Germany, local public health offices are the dominant form of public health service provision, in particular in those federal states where public health offices at the federal state level do not exist. They are responsible for public health reporting, managing health promotion activities and the provision of prevention activities for vulnerable groups. In Italy local health authorities provide public health services related to health protection and promotion.

Table 3.3 *Organizational features of local public health institutions in selected European countries*

	Local public health offices	Level of organization	Degree of autonomy	Responsibility and role
England	Public health departments in local government	Local/ municipal level	High (no upward reporting)	Planning, commissioning and delivery of local public health services.
France	NGOs, local governments, and local health insurance offices in absence of a formal organization	Local level	Higher, as activities and relationships are not formalized	Not formalized. Some prevention activities.
Germany	400 local public health offices (Gesundheitsämter)	Municipal level	Higher, only in city states of Hamburg and Bremen reporting to federal state level health authorities	Health reporting; health protection; prevention, social care and health education; health management, quality assurance and communication; youth dental health (in schools); health consumer protection.

Italy	Local health authorities	Local level	Higher, both related to organizing work and financial autonomy	Delivery of health protection and promotion and disease prevention (mostly vaccination). Some larger local health authorities also take on other public health functions.
The Republic of Moldova	Two municipal and 34 district public health institutions	Local level (ongoing regionalization)	Lower, reporting to the Ministry of Health	Surveillance, control of communicable diseases and health protection.
The Netherlands	393 municipal public health institutions, linked to local authorities	Municipal level	Middle	Youth health services; environmental health; social health services; sanitary inspections; health services for asylum-seekers; screening; epidemiological research; health education, community mental health.
Sweden	290 municipal public health institutions, linked to local authorities	Municipal level	Higher	Health promotion services linked to child care, social care, planning and construction, family care and others.

Relationships between the different levels

Relationships between the different levels of public health services can follow a more or less pronounced hierarchy. At one end of the spectrum is the conventional hierarchy with a top-down chain of command and control in which a central organization has the principle authority for decision-making and the subordinate institutions are following commands, orders and instructions, and report to the central authority. At the other end of the spectrum there is a flat hierarchy, up to complete local independence.

These different types of hierarchy are directly related to the degree of independence afforded to the local level. They are embedded in the broader administrative organization of the country in question and are very much context-dependent. Broadly speaking, stricter, top-down hierarchies of public health services are more prevalent in eastern European countries, while flat hierarchies are more common in western and northern European countries.

However, there are major differences between different types of public health services, with some following a more vertical hierarchy. This applies in particular to infectious disease control and the response to public health emergencies, where even more decentralized systems follow a strict chain of command and control to ensure an effective response. Coming back to the example of the Netherlands, detailed national protocols are available and have to be followed for the more medically-oriented tasks, including infectious disease control, environmental public health, screening programmes and youth health care. This means that, in most countries, a mix between different types of hierarchy exists.

While there is no one-size-fits-all public health service, and what works in one country might not work in another, this variation across different types of public health services indicates that both approaches have advantages and disadvantages, many of which have been identified in the literature on health system decentralization (Saltman, 2008). A top-down hierarchy makes it easier to pursue central directions and objectives and achieve local compliance. However, as subordinate authorities are line-managed by supervisory authorities, it might be more challenging to ensure a corporate identity and allegiance to central directions and objectives. For seamless functioning, this form of organization is also demanding in regard to the need for regular feedback and reporting. Responsiveness to local needs and recognition of what is possible to achieve at the local level may also be compromised. In its worst case, there is a total disconnect between rationales, objectives, and processes of decision-making at central and local level, with potentially draining effects on resources and morale at all levels.

Centralization

Centralization takes place when activities or organizations are concentrated at a higher-level authority. This may take the form of a single authority or a number of institutions. The degree of centralization of public health functions is determined by contextual factors, including the geographical size of a country, its population size, the political and administrative set-up and the number of institutions (Box 3.6).

A centralized structure has the potential to take a visionary, strategic and whole-of-government approach, and to respond to major national challenges and risks. The decision to centralize structures and functions can increase economies of scale and facilitate the recruitment of staff. It can also help in the implementation of strategies by establishing more effective oversight arrangements.

Centralization can be comprehensive or partial and can be implemented through mergers or the abolition of subordinate regional or local structures.

Box 3.6 *Illustrative quotes from the interviews on centralization***Slovenia**

In Slovenia “before the restructuring, coordination and harmonization of policies was difficult, especially with regard to reaching consensus on priority areas – these were linked more to the specific interests of the regional institute rather than based on the needs of the population. The rationalization was cost-effective and priority-setting and implementation works much better now under the new structure” (SLO – Interview 1).

“In the area of communicable disease control we would like to have more of a command and control structure” (SLO – Interview 3).

France

In France, “the regional health agencies are charged with responding to local specificities, but the system is very centralized; the Director of Regional Health Agencies is appointed directly by the Minister of Health” (FRA – Interview 1).

Centralization can take place with various objectives, for instance to increase decision-making authority by extending coverage and scope of a national public health institution, to save costs by disinvesting in lower-level administrative structures, or subsume key functions into a central level authority to increase coordination.

Institutional mergers of national level public health institutions have been pursued in recent years in Finland, France, Italy and Sweden, while mergers of municipal health services took place in France and the Republic of Moldova (Box 3.7).

Box 3.7 *Examples of institutional mergers***France**

Several institutions, including the French Institute for Public Health Surveillance, the French Institute for Health Promotion and Health Education and the Establishment for Public Health Emergency Preparedness and Response Santé Publique, were merged in 2016, creating Santé Publique as the national public health agency. France has also seen a reduction of regional health authorities.

Italy

The number of regional health authorities in Italy was reduced in recent years as some regions, including Lazio, Umbria and Sardinia, have dismantled their agencies as a consequence of public budget cuts, with their functions distributed between other regional units and local health authorities.

Box 3.7 *contd.*

The Republic of Moldova

With the stated aim of improving the coordination of services, 36 public health laboratories were merged into 10 regional laboratories in July 2016. This was hoped to improve efficiency and reduce administrative costs. The merger experienced some opposition from within and beyond the system, as staff had to be relocated and sample transport was not readily available. The second phase is anticipated to create 10 public health centres through mergers of the original 36.

The scope for centralizing public health institutions is shaped by the degree of devolution within each country. It is beyond the scope of this volume to review these in detail as the arrangements that exist are often quite complex, such as those between the four countries of the United Kingdom and its overseas territories, or between France and the Netherlands and their overseas territories. Other examples include Switzerland, a confederation, and federal countries such as Germany and Austria, whereas in Spain and Italy, while not fully federal states, many responsibilities have been devolved to regions. In the Scandinavian countries, decision-making has been traditionally more dispersed to local actors, although in some, most notably Finland, there are current proposals for creating regions from the very large number of municipalities.

Decentralization

Decentralization is when decision-making authority or organizational structures are dispersed to lower-level administrative units. Most countries in Europe have decentralized the provision of public health services to subnational organizational units or more or less autonomous institutions that provide services at the district, municipal and community level (Box 3.8).

Box 3.8 *Illustrative quotes from the interviews on decentralization*

Sweden

“The national level only has an indirect influence on what goes on”, but there are several national agencies in public health “trying to inform what goes on at the local level” (SWE – Interview 1).

The Netherlands

Regional public health services “are the key organization in providing [and] executing public health programmes”. The “municipalities are aware of the fact that they should innovate their local health system and they are really looking at prevention” (NL – Interview 1).

Poland

There are “too many captains and too small a crew on board. There are many ‘laudable’ nationwide plans but there is no capacity to perform them at the local level, close to the people. Local authorities have relatively too many tasks – roads, local transportation, safety, water supply, sanitation, cemeteries, schools, health etc. – in comparison with their human resources, professional skills and budgets” (PL – Interview 1).

Italy

“The regionalization did not bring higher effectiveness. It increased the differences between regions, even in terms of inequalities and the performance/capacity of regions. The capacity is very different, in terms of personnel, investment and experience. There is a north–south divide, but also differences within northern or southern regions” (ITA – Interview 1).

France

“Municipalities are having an increasing role in health prevention, which is seen as good, given that they are close to the needs of the population.” (FRA – Interview 1). However, “decentralization doesn’t really exist” (FRA – Interview 3).

England

The “move of public health services from the NHS to local government in April 2013 was with the rationale that local government was better suited to address key health determinants that are within the local authority remit, such as housing, education, children, living conditions, leisure, environment” (ENG – Interview 2). “Some local governments have really welcomed and grasped the whole concept of public health and have put public health within their overall strategies to influence everything that they do in local authorities with a focus on improving health and well-being” (ENG – Interview 2). “Public Health England has limited powers to influence the local authorities, whereas when it was in the old NHS system, there was a much, I mean this is obvious, but there was a much more command and control system within the NHS than there is in local government” (ENG – Interview 2). “So if a particular local government wants to virtually wipe out public health, people can, like the Director of Public Health, or the local government association could come in and try to influence them, but no one can tell them they can’t do that” (ENG – Interview 2).

In Scandinavian countries, the Netherlands and Switzerland, public health institutions have traditionally been decentralized, in line with constitutional arrangements. In some countries of central and eastern Europe and the former Soviet Union, some public health institutions were decentralized, which included the transfer of some responsibilities from central to peripheral institutions (WHO, 2012).

A particular challenge has been the privatization of public health services in some central and eastern European countries, especially with regard to diagnostic laboratory services to detect environmental hazards (including in air; water; and soil; and related to chemical, radiological and biological hazards) and to test food products. Public health laboratories have started to offer services to the market to generate income, distracting from the core mission of the state-run public health service.

Advantages of decentralized structures can be that decision-making is more responsive to population needs and expectations, that they foster local democracy by enabling direct interaction between institutions and the population, that they facilitate intersectoral working across adjacent policy areas, and that they allow for local innovation. Fragmentation, inequities, competition for funding and lack of institutional alignment are challenges to overcome in decentralized arrangements, although the risk is smaller and can be mitigated with effective coordinating units at the national or regional level, as is being attempted in France and the Netherlands. A number of policy tools are available to support local level public health services in decentralized structures (Box 3.9).

Box 3.9 *Policy tools to support local level public health services in decentralized structures*

Local health profiles with national benchmarks: several countries have developed health information systems that provide detailed regional or municipal health profiles that illustrate how the region or municipality is doing compared to the national average. Examples include Sweden's "Open Comparisons" between municipalities, county councils and regions, Public Health England's "Fingertips" local health profiles, municipal health profiles in Slovenia and the Netherlands, and Norway's public health profiles for municipalities and counties. These local health profiles can guide local public health policy-making.

Easily accessible evidence-based national guidelines: the provision of knowledge on public health interventions, such as through evidence-based guidelines available on national websites, is another way of supporting local level public health services. In Sweden, for example, the National Board of Health and Welfare issues guidelines on such issues as healthy lifestyles which are to be used in health services.

Dedicated national or regional support structures: where public health services are devolved to the local level, it is useful to have a dedicated support structure at the regional or national level that can support local level actors. In Italy, local health authorities receive technical and scientific support from regional agencies, while Public Health England operates nine regional centres with focal points for each local authority. In France, the regional level provides support to municipalities in the form of training.

Exchange of local level experience: the exchange of experience between local level public health services from different areas within a country can be a useful tool for knowledge exchange and capacity-building. In France, for example, there is some exchange between municipalities at specific conferences, which municipalities from other countries are also invited to participate in to present their good practices; there are also conferences at the regional level which are a forum to discuss interventions at local level to solve public health issues.

Defined minimum basket of local level services: in countries with decentralized public health services the types of services that are to be delivered locally are usually outlined through national frameworks. In Italy, for example, regional health plans are guided by the national health plan and local health plans have to be in line with both the national and the regional health plan. There is a defined minimum basket of services (the “essential levels of care” that also include some public health services) that all regions and local health authorities are required to deliver.

Defined minimum level of local level financing: in Italy regions are required to spend 5% of their regional health expenditure on prevention, although most of them do not reach this threshold.

Financial incentives or sanctions: financial incentives or sanctions can be a powerful tool to entice local level action. In Italy regions receive part of their funding upon demonstrating that they have met the required standards. Where the standards have not been met or where regions have a financial deficit, the region can be sanctioned, have an external administrator appointed, or be subjected to a financial recovery plan (*Piano di Rientro*). In December 2015, eight regions were placed under such financial recovery plans. In Sweden, in most of the 21 county councils, there is a pay-for-performance element to the payment of primary health care providers, accounting for about 3–4% of the total payment. The pay-for-performance element usually consists of 10–15 components, several of which are related to public health, such as tobacco consumption or physical activity.

Accountability mechanisms: even in some decentralized systems, the local level is still accountable to higher levels of the administration for delivering public health services. However, accountability mechanisms differ. In Italy, the Ministry of Health is responsible for monitoring the provision of the essential levels of care at the regional level, while the regions monitor local level adherence. In contrast, in the Netherlands, it is not seen as a task of the national government to monitor the municipal level.

Models and features of horizontal organization

Vertical relationships require clear institutional boundaries, but in many countries public health services lack them and many actors involved in providing public health services collaborate horizontally under more or less formal mechanisms, both within the health system and beyond.

Partnerships and networks

Partnerships, whether they are formed and operated on an informal or formal basis, usually follow an established regulatory framework. They are a common form of horizontal working for organizations providing public health services and appear to be particularly suitable to frame public health activities under voluntary collaboration arrangements.

Networks can be organized at the national, regional or local level and might comprise the public sector, the private sector or both. In some countries, networks are organized as public–private partnerships, such as the former “responsibility deal” in England, formal networks in the Netherlands and informal networks at the local level in France.

Team-based public health organization

Team-based organization of public health institutions typically operates beyond institutional borders and constituencies. It still requires some structure, typically formed by people, rather than institutions. Team-based public health organization works best if they follow a pre-existing arrangement, whereby for instance a critical connector is identified (sometimes called a “knot”), and the links to other people will consecutively mobilize a team. Team-based public health organization arguably will have advantages for public health services that are provided for a limited period of time because they are easier to be established and to be dissolved than institutions.

Divisionalized organization

Divisionalization means the separation of a larger public health organization into a set of smaller semi-autonomous subordinate public health units which are given clear goals and are autonomous in planning and operating their work, while adhering to the overall strategic direction and complying with the overall public health rules and culture of the system. In public health, this form of organization has experienced increasing popularity as population health challenges have become more multifaceted. A full division will have much of its own infrastructure (including administrative units such as for human resources, accounting, marketing and so on). Smaller forms will have the infrastructure elements delivered from the central unit.

Geographical organization of public health institutions

Geographical challenges related to public health services are mostly an issue in countries with remote, sparsely populated or mountainous areas and poor traffic infrastructure, as in Turkey, the Russian Federation and some countries in Central Asia and the Caucasus. These issues are compounded by growing urbanization and depopulation and an increased average age of populations

in rural areas. In view of these trends, the Republic of Moldova has decided to reduce the number of public health laboratories, from 36 at the district level to 10 regional ones, due to the difficulties in attracting and sustaining young professional staff in rural sites, financial constraints, and a high number of institutions with outdated infrastructure and technology.

Scaling up formal and informal collaboration and networking

In most countries, the provision of public health services is scattered and responsibility divided among multiple institutions. Effective coordination requires dynamic and active linkages between institutions responsible for policy-making and regulation and those that provide public health services. These linkages are particularly important at regional and community levels, where geographical distances are closer and regional and local networks can build on informal relations between institutions and staff. Overall frameworks can help to align institutions, facilitating formal and informal collaboration and networking, and ensuring that service provision follows a coherent path. Cooperation and partnerships that have developed in routine settings are particularly relevant in times of crisis and public health emergencies, when time is scarce to set up new networks (Box 3.10). They may also prove important when policy change is needed. Many countries have in place structures or mechanisms to coordinate local, subnational, and national public health actions, although the extent to which they succeed varies greatly and it is always necessary to decide whether the benefits of coordination outweigh the transaction costs that are incurred in maintaining relationships.

Box 3.10 *Coordination of health service provision to refugees by local health authorities in Hamburg, Germany*

In 2015, the German city state of Hamburg received about 22 300 refugees. Many of the refugees required primary preventive and curative services which were not accessible to them in the standard health care settings, partly due to language and cultural barriers. The coordination of the provision of primary care offices was led by one of the seven district public health offices which established primary health care offices in reception centres by contracting medical doctors; for every 1 000 refugees a full-time doctor and a medical assistant was contracted. Public authorities, charities and civil society were working hand in hand to provide and finance health services to refugees in Hamburg in response to specific health risks and needs with the goal to swiftly integrate them into the standard health care system. Coordination and supervision of refugee health remains in the hands of the public health institutions until language and cultural barriers are overcome and satisfactory coverage by, and access to, routine services is achieved.

Source: Jakubowski et al., 2017

The situation is much more complicated when developing links with private organizations. Sometimes, such relationships will be uncomplicated, for example when a public health organization contracts with a provider of particular products or services that the organization cannot produce itself. Other cases are more difficult, especially where the private companies have a vested interest in the issue being addressed. Thus, producers of harmful substances, such as alcohol or junk food, are anxious to gain a seat at the table whenever policy is being developed. This was also true once with the tobacco industry but the Framework Convention on Tobacco Control makes clear that any involvement with it is unacceptable and while the industry is actively trying to circumvent this principle using a range of alternative nicotine delivery devices, the World Health Organization and leading public health organizations have completely rejected this. The “public health responsibility deal” in England, consisting of voluntary pledges for action that industries, government and other organizations could sign up to, was one of the most closely studied examples of this approach, with evaluations showing that it achieved very little in terms of concerted public health action (Knai et al., 2015). The industries involved typically advocated those measures that were least effective (and which also did least damage to their profits) while opposing measures that would work.

Another set of relationships involve NGOs, which play an important role in service provision in many countries. They can also contribute through national and international initiatives such as the international network of Health Promoting Hospitals & Health Services and the International Foundation of Integrated Care. The WHO Regional Office for Europe has also inspired practical approaches by adopting a framework for action on integrated service delivery in the WHO European Region (WHO, 2016a).

Boxes 3.11 and 3.12 provide examples of institutional mechanisms deployed by some countries to foster collaboration and partnerships within and across sectors.

Organizational and institutional change

As noted previously, changes to the organization of public health services are usually the consequence of decisions about quite different issues, such as reforms of local government, as in Finland in 2018, or the transfer of many public health functions from the NHS to local government in England in 2012, necessary to create the conditions for enhanced competition in health care rather than any considerations about whether it would strengthen public health (it is widely seen as having weakened it). However, when changes are made, they are often justified by claims that they will in some way improve things. This might

Box 3.11 *Examples of efforts to enhance collaboration with partners in the health sector***France**

A national health conference includes representatives of various actors, including patient and citizen organizations, associations of health professionals, health product industries, health insurance funds, research institutions and regional health conferences. A similar conference is organized at the regional level. The national conference provides advice to the health ministry, and the regional conference advises regional health authorities on public health issues.

Germany

The tradition of organizing health conferences in Germany arose from regional initiatives to ensure that population health monitors are linked to policy-making at the local level. The first initiative came from North Rhine-Westphalia in the 1990s to improve local coordination. Since then, many other regions followed suit, most recently Baden-Württemberg that made municipal health conferences mandatory for its 44 local public health offices in 2015. With the adoption of the national prevention law in 2015, a national prevention conference was launched with a focus on goal-oriented cooperation of stakeholders for prevention and health promotion.

Box 3.12 *Examples of efforts to scale up intersectoral collaboration and partnerships***England**

With the 2012 Health and Social Care Act, the coordination, planning and commissioning of public health services was delegated to local authorities, primarily because there was no longer any place for public health in legislation designed to extend the competitive market for health care. Those seeking to justify this decision argued that it could enhance intersectoral collaboration and partnerships. For this purpose, local authorities were obligated to set up Health and Well-Being Boards with the aim of bringing together the NHS, public health, adult social care and children's services, to plan how best to meet the needs of their local population and tackle local inequalities in health.

France

Intersectoral collaboration at the national level in France takes place through interministerial meetings. The establishment of the interministerial health committee in 2014 has formalized this collaboration. The committee is headed by the prime minister and is dedicated to supporting population health monitoring, addressing health education and health promotion in public policies, and supporting regional and interregional collaboration in public health.

Italy

Following promotion of intersectoral approaches through the national programme on "Gaining Health", the national prevention plan was reoriented and enhanced towards

Box 3.12 *contd*

intersectoral mechanisms. This builds on some pre-established platforms, such as the national platform on diet, physical activity and tobacco which was consequently reconstituted with the aim of reducing alcohol misuse and tobacco use and promoting healthy diets and physical activity. The platform brings together actors from central administrations, regions, institutes and research centres, health care providers, manufacturer, consumers and trade unions.

The Republic of Moldova

National health programmes in the Republic of Moldova are developed by intersectoral working groups. There are also intersectoral national coordination councils established under the leadership of the deputy prime minister responsible for the social sector. The coordination councils act as the consultative body for the government on specific public health issues such as tobacco, alcohol and nutrition. They engage a broad range of actors, including ministries, academia, NGOs and the mass media.

The Netherlands

Under the National Prevention Programme 2014 to 2016, a large number of private and public organizations signed a pledge to undertake public health-related activities in various settings, including health care, homes, workplaces, schools and neighbourhoods.

Slovenia

Slovenia has enhanced intersectoral collaboration through various means. It was the first country in the WHO European region to assess the health impact of changes to agricultural and food policies following EU accession. This led to more integrated policy development in food, nutrition and health and increased acceptance of modern public health approaches by other sectors. Today, Slovenia maintains a variety of systematic mechanisms to forge intersectoral collaboration, including through formal and informal collaboration, interdisciplinary processes and networking.

be by improving population health outcomes; strengthening coverage and equitable access to public health services; improving quality of public health services; fostering integration of services; increasing responsiveness of services and of institutions providing services to the needs, demands and preferences of people; strengthening the accountability and transparency of public health organizations; improving financing; and improving efficiency of services. The evidence that these ever occur is limited.

There is, however, one reason for reforming public health services in the absence of wider changes. This is to foster integration of planning and delivering public health services across institutions, disciplines and sectors. Integration of services

can be fostered through, for example, joint planning of health care and public health. Examples of integrating public health services into primary health care can be found in many European countries, including Denmark, Finland, and Sweden, as well as Portugal and Spain (WHO, 2012). While these countries rely on taxation as the main source of public funding for their health system, in the past 10 years several countries with social health insurance systems have introduced new laws, foundations and funding streams to enhance the integration of public health services (in particular related to individual and occupational forms of health promotion) into routine service settings, among them Austria, Germany and Switzerland.

Legal and regulatory changes

Public health functions, like any state activity, operate under the law (Dubois et al., 2006). Like all laws, public health legislation must be revised from time to time to keep pace with changing circumstances. Recent legislation changes include the Public Health Act in France (2004), the Public Health Act in the Netherlands (2008), the Law on State Surveillance of Public Health in the Republic of Moldova (2009), the Health and Social Care Act in the United Kingdom (2012), the Law on Public Health in Poland (2015), and the Health Services Act in Slovenia (2013).

The legislation in the Netherlands, responding to judicial claims for financial compensation for failures in ensuring effective health protection during an outbreak of Q fever 2007, reinforced the shared responsibility between the state and the municipalities. The new legislation in France redefined relationships between the national and the regional level. It clarified the need for planning public health services at both levels, with planning at the regional level becoming the responsibility of the newly created regional health agencies (ARSs). The recent legislation in England had a major impact on institutional arrangements, by moving public health services from the NHS to local authorities. The 2009 Law on State Surveillance of Public Health in the Republic of Moldova introduced new functions of noncommunicable disease monitoring, prevention and health promotion, although with limited responsibilities and personnel for these new functions. In Slovenia, the Health Services Act in 2013 separated laboratory from other public health functions, setting up a separate National Laboratory for Health, Environment and Food, alongside the National Institute of Public Health, each with its subordinate regional structures. The reform was partly triggered by the lack of cooperation and coordination between the previously independent regional public health institutes that also provided laboratory services. Another problem was that financially lucrative laboratory services took priority. While some of the regional public health institutes were able to generate additional income, others accumulated debts requiring subsidies from the government

budget. Table 3.4 shows some recent public health laws and their implications for organizational reforms of public health services.

Table 3.4 Selected public health laws and their implications for organizational reforms

	Legal act	Objectives and impetus for change	Purpose
England	Health and Social Care Act (2012)	To make local authorities responsible for public health.	Takes municipal public health services out of NHS control and relocates them to local health authorities.
France	Public Health Act (2004)	Give higher priority to population health and set out strategic objectives to guide alignment of public health action at the different levels of administration.	a) Defines relationship between national and regional level b) Improves and integrates joint public health and health services planning at regional level.
Germany	Act to Strengthen Health Promotion and Prevention (2015)	The law was adopted following several failed attempts with the prime purpose to shift the emphasis from care towards a proactive and preventive approach.	To strengthen health promotion in the living environment following the settings approach (day care, schools, workplace, nursing homes) through better cooperation between health insurance institutions and local government.
The Republic of Moldova	Law on State Surveillance of Public Health (2009)	To adjust public health services to the increasing burden of noncommunicable diseases.	Improve organizational management and service provision and introduce new functions related to noncommunicable diseases, such as surveillance, prevention and control.
The Netherlands	Public Health Act (2008)	To integrate European regulations regarding interventions in the case of threats of infectious diseases or other crises.	Reinforce shared responsibilities between state and municipalities.
Poland	Law on Public Health (2015)	To provide a comprehensive framework for regulating public health services and to introduce cohesiveness and reduce fragmentation in public health services.	Sets out new requirements and mechanisms for collaboration between various actors, including government, state institutions, executive agencies, local government units and NGOs.
Slovenia	Health Services Act (2013)	The law regulates a major restructuring of public health institutions with the establishment of two separate national institutions, the National Institute of Public Health and the National Laboratory for Health, Environment and Food.	To centralize public health operations in order to strengthen collaboration, ensure sustainability of financing, and improve equitable access to public health services.

Conditions for successful implementation

A number of features have been associated with successful implementation of change (Thomson et al., 2014):

- ensure reforms are underpinned by capacity, investment and realistic time frames;
- ensure reforms are in line with national policy goals, values and priorities;
- ensure transparency in communicating the rationale for reform and anticipate resistance to changes that challenge vested interests;
- improve information systems to enable timely monitoring, evaluation and the sharing of best practice;
- foster strong governance and leadership at national and international levels;
- address gaps in coverage;
- strengthen health financing policy design;
- invest in measures to promote efficiency.

Yet, in practice, whether a reform achieves its objectives will depend, to a large extent, on the prevailing context. This includes the general economic, social and political conditions of a country. Implementation is characterized by complexities, involving multiple actors at all policy levels, that are not easily comparable across countries. In view of the overriding importance of contextual factors, it is impossible to come up with any single or simple model for meeting the challenges of implementation. Simply speaking, there is no one-size-fits-all approach to policy implementation (Cerna, 2013).

A number of observers have pointed out the need for strong governance or leadership for policy reforms to succeed and policies to be implemented (EXPH, 2016). A recent framework for analysing and improving health system governance suggests five key attributes of governance (Greer et al., 2016): transparency, accountability, participation, integrity and capacity. These attributes help to identify the governance elements required for effective implementation.

Participation means that affected parties have access to decision-making and power so that they acquire a meaningful stake (Greer et al., 2016). A key point here is that “good governance” involves “shared governance” among different levels of public sector government (national, regional and local) as well as buy-in from private sector actors, health workers and the general population (Saltman & Duran, 2015). Successful reforms have often been accompanied by consistent coordinated efforts to persuade voters and stakeholders of the

need for reform and, in particular, to communicate the costs of nonreform. Real engagement with stakeholders also involves listening to their concerns, and may well result in some modification of reform proposals (EXPH, 2016).

A 2016 WHO Regional Office for Europe report argued for a balance between top-down and bottom-up implementation. Large-scale initiatives require a balance between centralized strategic planning and coordination, and autonomy and empowerment at the local level to generate innovation and more sustainable engagement. Investing in skills and resources at the point of clinical care is vital but needs to be supported by an overarching body that can provide high-level strategic alignment, large-scale coordination, consistent provision of standardized and specialized resources and training, and the removal of obstacles that are beyond the ability of local departments to overcome (WHO 2016a).

Successful implementation of health policies also requires policy capacity. While this is needed for evidence review and policy formulation, it also affects all other stages of the policy process, from the strategic identification of a problem to the actual development of the policy, its formal adoption, its implementation, and even further, its evaluation and continuation or modification (Forest et al., 2015).

Transparency means that “institutions inform the public and other actors of both upcoming decisions and decisions that have been made, and of the process by and grounds on which decisions are being made” (Greer et al., 2016). In the area of policy implementation, transparency in communicating the rationale for reform can help to reduce resistance to changes. This is particularly important when policies directly threaten the incomes of patients, health workers, providers and the suppliers of drugs, devices and equipment (EXPH, 2016).

One of the central questions in discussing policy reform and implementation is whether to opt for so-called big bang or incremental change. The ability to introduce rapid reforms depends mainly on the configuration of the governance structure and on political will, but it is also influenced by contextual circumstances such as the state of the economy and the degree of support from key stakeholders. Radical changes based on ideology may not be politically and technically sustainable in the long run and an incremental approach may lead to more socially sustainable policies than the wholesale changes introduced in so-called big bang reforms (EXPH, 2016).

The best approach depends on the particular circumstances of the country in question, but it is possible to build flexibility into the implementation process even in the case of big bang reforms. For example, one could combine a political big bang approach for the passage of legislation, followed by incremental

implementation inside health sector institutions. Two different situations may occur. The first one is when an initial impetus triggers a snowball effect, making it easier to progress through the reform. The second situation is when upon start of a policy reform, barriers and obstacles begin to mount. In this case, persistence is the key to implementing the reform, so rather than a so-called big bang, a continuous reform effort, with increasing force put into it, is necessary (EXPH, 2016).

Monitoring institutional reform

In this book we have postulated that the services that public health institutions are providing can contribute significantly to population health outcomes. It is however difficult to assess outcomes emerging from a change in institutional infrastructure, in particular regarding services that do not have immediate but rather longer term effects. The institutional set-up of some services may be easier to measure and monitor than others. For instance, institutional responses to unclean water or food products can be easier assessed in terms of their health outcomes and compared before and after institutional changes than health promotion services.

Conclusions

This chapter has shown that “public health organizations”, “public health institutions” and “providers of public health services” are often not clear-cut categories, but instead fluid and interconnected. There are many actors engaged in governing and providing essential public health operations, including government authorities, agencies, professional bodies, NGOs and private institutions.

Public health services can be mandatory or voluntary. Mandatory services often include “classical” public health services, such as health protection and disease prevention, whereas “modern” public health services, such as health promotion and interventions addressing the social determinants of health, are sometimes voluntary. Enabling public health institutions to respond to changing demands requires a balance between mandatory responsibilities and some flexibility in enacting functions at the national, regional and local level, allowing them to adapt to changing needs and demands.

A challenge for policy-makers when considering institutional reforms is that many institutions have hybrid responsibilities for coordinating, governing and providing public health services. Often there are no clear legal and regulatory boundaries of institutional responsibilities, making it sometimes difficult for

reformers to identify and disentangle the different functions of public health institutions in order to avoid unintended consequences for functions that were not the prime target of reforms. This is particularly challenging in view of current trends towards intersectoral ways of working, where borders of institutional responsibilities become blurred, and it may make monitoring of the effects of institutional reforms even more complicated.

For policy-makers, reforms of public health institutions can be important means to adjust public health systems and services to contemporary population health challenges. Yet, examples from across Europe suggest that public health institutions have been rather static in their institutional set-up and resistant to change. Strategies to reform them will need to consider wider system adaptations, including adjusted financing instruments, human resource strategies, and changes in service delivery processes (Box 3.13).

Box 3.13 *Key messages on the organization of public health services*

- The organization of public health services is largely context-dependent, related to the wider administrative structure of the country.
- There are no one-size-fits-all solutions.
- There are advantages and disadvantages of locally led public health services.
- Where public health services are decentralized, they need support by the national level.
- Support tools include information systems, evidence-based guidelines, dedicated support structures, accountability mechanisms and a defined minimum level of services and expenditure.
- Reforms of public health services must consider financing instruments, human resource strategies, improving coordination between public health and other services, and changes in service delivery processes.
- There has been a lack of innovation and experimentation in public health services.
- Good governance will be crucial for successful reforms.

Institutional reforms will also require clarity and transparency about policy objectives. These may be related to improving transparency about measurable population health outcomes, reducing administrative costs of public health institutions, strengthening the integration of service providing organizations or others. A key challenge will be to measure and improve the quality of public health services and the performance of institutions.

Over the years, the World Health Organization has developed a series of international frameworks for the related concepts of primary health care,

integrated care, health systems strengthening, essential public health operations and universal health coverage. However, the 2030 Agenda and the Sustainable Development Goals have challenged such programmatic frameworks. Countries will find it helpful to have a single integrated and interconnected policy framework, enabling to link efforts in service strengthening to improved health outcomes.

This chapter has explored the organization of public health services, drawing on in-depth reports on nine European countries. It has confirmed findings of an earlier review that there is great diversity in the organizational arrangements of public health institutions across the WHO European Region, with differences in governance arrangements and the division of responsibility between administrative levels (WHO, 2012). To remain fit for purpose, public health institutions will have to be adjusted periodically to meet population health challenges and utilize new opportunities, such as through the increasing digitalization of data and services. This chapter has identified some levers for change and mechanisms for adaptations. It is up to policy-makers to assess which experience is relevant to their own countries.

References

Berwick D (2013). Improving the safety of patients in England. National Advisory Group on the Safety of Patients in England. London: Department of Health.

Bloland P, Simone P, Burkholder B, Slutsker LM, De Cock K (2012). The role of public health institutions in global health system strengthening efforts: The US CDC's perspective. *PLoS Med.*9(4):e1001199.

Burger R (2012). EHEC 0104:H4 in Germany 2011: Large outbreak of bloody diarrhea and haemolytic uraemic syndrome by shiga toxin producing E.Coli via contaminated food. In: Institute of Medicine (US). Improving Food Safety Through a One Health Approach: Workshop Summary. Washington, DC: National Academies Press (US): A1. (<https://www.ncbi.nlm.nih.gov/books/NBK114499/>, accessed 22 May 2018).

Cerna L (2013). The nature of policy change and implementation: A review of different theoretical approaches. Paris: OECD

Dubois CA, McKee M, Nolte E (2006). Analysing trends, opportunities and challenges. In: Dubois CA, McKee M, Nolte E eds. Human resources for health in Europe. Maidenhead: Open University Press.

EXPH (2016). Typology of health policy reforms and framework for evaluating reform effects. Expert Panel on Effective Ways of Investing in Health (EXPH). Brussels: European Commission.

Federal Ministry of Health and Women's Affairs (2017). Health Targets Austria. Vienna: Federal Ministry of Health and Women's Affairs. (<https://gesundheitsziele-oesterreich.at/website2017/wp-content/uploads/2017/05/health-targets-austria.pdf>, accessed 22 May 2018).

Forest PG, Denis JL, Brown LD, Helms D (2015). Health reform requires policy capacity. *Int J Health Pol Manag*.4(5):265–266.

Greer SL, Wismar M, Figueras J (2016). Strengthening governance amidst changing governance. In: Greer L, Wismar M, Figueras F eds. Strengthening health system governance. Better policies, stronger performance. Maidenhead: Open University Press.

Healy J, McKee M (2002). Hospitals in a changing Europe. Buckingham, UK; Philadelphia, Pennsylvania : Open University Press. (http://www.euro.who.int/__data/assets/pdf_file/0004/98401/E74486.pdf, accessed 22 May 2018).

Heymann DL et al. (2015). Global health security: the wider lessons from the west African Ebola virus disease epidemic. *Lancet*.385(9980):1884–1901.

Hunter DJ, Marks L, Smith KE (2010). The public health system in England. Bristol: Policy Press.

Hunter DJ (2016). Public health: unchained or shackled? In: Exworthy M, Mannion R, Powell M eds. Dismantling the NHS? Evaluating the impact of the health reforms. Bristol: Policy Press.

Jakubowski E, Rau CJ, Quallhorts S, Sothmann P, Plene-Bönig A, Niessen J (2017). Health care for refugees: Challenges and opportunities in Hamburg. *Gesundheitswesen*.79:1–6.

Kickbusch I, Gleicher D (2011). Governance for health in the 21st century: A study conducted for the WHO Regional Office for Europe. Copenhagen: WHO Regional Office for Europe.

Kim R, Rantanen J, Lehtinen S, Husberg W (2014). Occupational health and safety. In: Rechel B, McKee M eds. Facets of Public Health in Europe. Maidenhead: Open University Press: 71–92.

Knai C, Petticrew M, Durand MA, Scott C, James L, Mehrotra A et al. (2015). The Public Health Responsibility deal: has a public–private partnership brought about action on alcohol reduction? *Addiction*.110: 1217–1225.

Leonardi G, Rechel B (2014). Environmental health. In Rechel B, McKee M eds. *Facets of Public Health in Europe*. Maidenhead: Open University Press.

Masters R, Anwar E, Collins B, Cookson R, Capewell S (2017). Return on investment of public health interventions: a systematic review. *J Epidemiol Community Health*.71:827–834.

McDaid D, Park A-L. (2016). Evidence on financing and budgeting mechanisms to support intersectoral actions between health, education, social welfare and labour sectors. (Health Evidence Network (HEN) synthesis report 48). Copenhagen: WHO Regional Office for Europe.

McKee M (2017). Building bridges in Budapest. 14 September 2017. The BMJ opinion. (<http://blogs.bmj.com/bmj/2017/09/14/martin-mckee-building-bridges-in-budapest-the-67th-who-european-regional-committee-meets-on-the-danube/>, accessed 22 May 2018).

McKee M, Rechel B, Busse R (2014). Healthcare public health. In Rechel B, McKee M eds. *Facets of Public Health in Europe*. Maidenhead: Open University Press: 135–152.

Merkur S, Sassi F, McDaid D (2013). Promoting health, preventing disease: is there an economic case? Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies (<http://www.euro.who.int/en/about-us/partners/observatory/policy-briefs-and-summaries/promoting-health,-preventing-disease-is-there-an-economic-case>, accessed 22 May 2018).

Ministry of Health of Turkey (2010). Strategic Plan 2010–2014. Ankara: Ministry of Health. (http://ekutuphane.sagem.gov.tr/kitap.php?id=240&k=strategic_plan_2010_2014, accessed 22 May 2018).

Ministry of Health of Turkey (2012). Strategic Plan 2013–2017. Ankara: Ministry of Health. (<http://sbu.saglik.gov.tr/Ekutuphane/kitaplar/stratejikplaning.pdf>, accessed 22 May 2018).

Ministry of Social Affairs (2012). *National Health Plan 2009–2020*. Tallinn, Ministry of Social Affairs (https://www.sm.ee/sites/default/files/content-editors/eesmargid_ja_tegevused/Tervis/Aruanded/rta_2009-2020_2012_eng.pdf, accessed 22 May 2018). [in Estonian].

Moreno JM et al. (2016). Defining and Assessing Public Health Functions: A Global Analysis. *Annual Review of Public Health*.37(12):335–355.

Müller MU (2017). App auf Rezept. *Der Spiegel*, 29 July 2017.

Parliament of the Republic of Lithuania (2013). *Lietuvos Sveikatos 2014–2023 Metų Programa [Lithuanian Health Programme 2014–2023]*. Vilnius:

Parliament of the Republic of Lithuania. (http://www.nationalplanningcycles.org/sites/default/files/planning_cycle_repository/lithuania/nhp_lithuania.pdf, accessed 22 May 2018). [in Lithuanian].

Petrič V-K, Maresso A (2018). Slovenia. In: Rechel B et al. eds. *Organization and financing of public health services in Europe: Country reports*. Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies: 49–64.

Pettigrew A, Ferlie E, McKee L (1992). *Shaping Strategic Change*. London: Sage Publications.

Pettigrew A, Ferlie E, McKee L (2009). Shaping strategic change – The case of the NHS in the 1990's, *Public Money & Management*. 12:3:27–31. Doi: 10.1080/09540969209387719.

Poscia A, Silenzi A, Ricciardi W (2018). Italy. In: Rechel B et al. eds. *Organization and financing of public health services in Europe: Country reports*. Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies: 49–64.

Rechel B, McKee M eds. *Facets of Public Health in Europe*. Maidenhead: Open University Press.

Saltman R (2008). Decentralization, re-centralization and future European health policy. *Eur J Pub Health*. 18(2):104–106.

Saltman R, Duran A (2015). Governance, government, and the search for new provider models. *Int J Health Pol Manag*. 5(1):33–42.

Santos-O'Connor F, Pukkila J, Santos CV, Salvi C, Faix D et al. (2014). The health security framework in Europe. In Rechel B, McKee M eds. *Facets of Public Health in Europe*. Maidenhead: Open University Press.

Serviço Nacional de Saúde (2013) *National Health Plan 2012–2016* [website]. Lisbon: Directorate-General of Health of Portugal. (<http://pns.dgs.pt/nhp-in-english/>, accessed 22 May 2018).

Thomson S, Figueras J, Evetovits T, Jowett M, Mladovsky P, Maresso A et al. (2014). *Economic crisis, health systems and health in Europe: impact and implications for policy*. Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies.

White F (2015). Primary health care and public health: foundations of universal health systems. *Med Princ Pract*. 24(2):103–116.

WHO (2005). *Revision of the International Health Regulation*. Geneva: World Health Organization.

WHO (2011). From burden to “best buys”: reducing the economic impact of non-communicable diseases in low- and middle-income countries. Geneva: World Economic Forum. (<http://apps.who.int/medicinedocs/en/d/Js18804en/>, accessed 22 May 2018).

WHO (2012a). European Action Plan for Strengthening Public Health Capacities and Services. Copenhagen: WHO Regional Office for Europe. (<http://www.euro.who.int/en/health-topics/Health-systems/public-health-services/publications2/2012/european-action-plan-for-strengthening-public-health-capacities-and-services>, accessed 22 May 2018).

WHO (2012b). Health 2020: The European policy for health and well-being [website]. Copenhagen: WHO Regional Office for Europe. (<http://www.euro.who.int/en/health-topics/health-policy/health-2020-the-european-policy-for-health-and-well-being>, accessed 22 May 2018).

WHO (2012c). Preliminary review of institutional models for delivering essential public health operations in Europe. Copenhagen: WHO Regional Office for Europe. (http://www.euro.who.int/__data/assets/pdf_file/0003/172731/Preliminary-review-of-institutional-models-for-delivering-essential-public-health-operations-in-Europe.pdf, accessed 22 May 2018).

WHO Regional Office for Europe (2012d). Case studies on health system performance assessment. A long-standing development in Europe. Copenhagen: WHO Regional Office for Europe. (<http://www.euro.who.int/en/what-we-do/health-topics/Health-systems/health-systems-governance/publications/2012/case-studies-on-health-system-performance-assessment2.-a-long-standing-development-in-europe>, accessed 22 May 2018).

WHO (2014a). The case for investing in public health. Copenhagen: WHO Regional Office for Europe. (http://www.euro.who.int/__data/assets/pdf_file/0009/278073/Case-Investing-Public-Health.pdf, accessed 22 May 2018).

WHO (2014b). Self-assessment tool for the evaluation of essential public health operations in the European Region. Copenhagen: WHO Regional Office for Europe. (http://www.euro.who.int/__data/assets/pdf_file/0018/281700/Self-assessment-tool-evaluation-essential-public-health-operations.pdf, accessed 22 May 2018).

WHO (2015a). Strengthening health system accountability: a WHO European Region multi-country study. Copenhagen: WHO Regional Office for Europe. (<http://apps.who.int/iris/bitstream/10665/170496/1/Strengthening-health-system-accountability-multi-country-study.pdf>, accessed 22 May 2018).

WHO (2015b). The Portuguese National Health Plan. Interim report on the National Health Plan: revision and extension to 2020. Copenhagen: WHO

Regional Office for Europe. (http://1nj5ms2lli5hdggbe3mm7ms5.wpengine.netdna-cdn.com/files/2015/07/2015_OMS_Interim-Report-on-the-National-Health-Plan_revision-and-extension-to.pdf, accessed 22 May 2018).

WHO (2016a). The European Framework for Action on Integrated Services Delivery: an overview. Copenhagen: WHO Regional Office for Europe. http://www.euro.who.int/__data/assets/pdf_file/0010/317377/FFA-IHS-service-delivery-overview.pdf, accessed 22 May 2018).

WHO (2016b). Health System Transformation: making it happen. Expert meeting Madrid, Spain, 17–18 December 2015 (http://www.euro.who.int/__data/assets/pdf_file/0014/318020/Madrid-Report-HST-making-it-happen.pdf?ua=1, accessed 22 May 2018).

Chapter 4

Financing of public health services

Bernd Rechel

Introduction

Information on the financing of public health services in Europe is available from international and national sources. Two international databases (OECD Health Data and Eurostat) provide information on the share of financing on public health services as a percentage of current health expenditure. The OECD health database also provides a breakdown of the sources of financing of public health services, as well as its providers. The WHO Global Health Expenditure database used to provide information on the share of financing on public health services as a percentage of total health expenditure, but this information was not available at the time of writing (January 2018), as the World Health Organization was overhauling its reporting of health financing data.

Additional information on the financing of public health services is available from national sources, including the data collected in the country reports undertaken for this study (on England, France, Germany, the Netherlands, Italy, the Republic of Moldova, Poland, Slovenia and Sweden). This chapter explores the information on public health and public health services available from these different sources. It begins by asking what the level of spending on public health is compared to overall health expenditure and how sustainable funding levels are, not least following the effects of the global economic crisis. The chapter then describes expenditure categories to get a clearer picture of the ways spending on public health is accounted for. A final section of the chapter is concerned with the ways financing for public health is generated and the consequences this might have for accessibility and sustainability (Box 4.1).

Conceptually, the sources of financing for public health and how it is spent can fall into the public or private sector (Fig. 4.1). Each of the resulting four

Box 4.1 *Key questions this chapter seeks to address*

- What share of health expenditure is spent on public health?
- What was the impact of the economic crisis?
- Where does the money go?
- Where does the money come from?

categories can be subdivided further according to the level of government administration involved (federal, state or local) and the type of private sector (household, for-profit, non-profit).

Fig. 4.1 *Typology of financing for public health services*

		Control over the use of financial resources	
		By the public sector: National Regional Local	By the private sector: Household For-profit Non-profit
Control over the sources of financial resources	By the public sector: National Regional Local	Type A	Type B
	By the private sector: Household For-profit Non-profit	Type C	Type D

Source: Adapted from Moulton et al., 2004

Just as with health financing generally, models in Europe for financing public health services differ greatly and there tends to be a mix of financing sources (Rechel et al., 2013). Yet, there is also remarkable uncertainty as to what constitutes expenditure on public health services, just as there are different understandings of what constitutes “public health” or “public health services”. Definitions differ from one country to the next (Allin et al., 2004; Sensenig, 2007), with some including personal health services delivered by public health agencies, while others only include population-based services (Sensenig, 2007).

In 2011, OECD, Eurostat and the World Health Organization agreed on a global standard of health accounts, with common definitions of expenditure

categories for financing data reported by these three organizations, including for public health (OECD/Eurostat/WHO, 2011). According to the 2011 edition of the System of Health Accounts, “prevention and public health services” are defined as “services designed to enhance the health status of the population as distinct from curative services, which repair health dysfunction. Typical services are vaccination campaigns and programs” (OECD/Eurostat/WHO, 2011). Prevention and public health have been grouped under the functional category “prevention” to better differentiate them from curative health services. In the previous version of the System of Health Accounts, SHA 1.0, categories were based on a mix of criteria: “public” referred at the same time to government-financed services, place of delivery (publicly owned services) and the beneficiaries involved (population groups).

While the new version of the System of Health Accounts clarifies the boundaries considerably, and explicitly includes areas such as environmental surveillance for public health purposes, there are many areas that fall under a more “upstream” and “whole-of-society” understanding of public health, such as strategies to improve health through active transport programmes, that are not captured by the System of Health Accounts as expenditure on prevention and public health (de Bekker-Grob et al., 2007). Activities such as advocacy are also not counted as a public health activity. Moreover, countries seem to vary considerably in how they capture spending on public health inside and outside the health system, such as, for example, vaccinations provided by GPs that may be hidden in primary care budgets (see Table 4.7).

Furthermore, confusingly, until 2017 the categories reported in the three health financing databases from OECD, Eurostat and WHO were not identical (Table 4.1). The WHO Global Health Expenditure database used the category of “prevention and public health services”, while Eurostat referred to “preventive care” and OECD to “public health and prevention”. Since then, both Eurostat and OECD have used the term “preventive care”, which is in line with the term used in the System of Health Accounts, 2011 edition.

Total expenditure on public health

The information presented in the OECD Health Statistics and Eurostat databases is derived from national reports. Where adjustments or estimates of nationally reported data are required, these are validated by national Ministries of Health prior to publication (WHO, 2012).

The data indicate wide variations between European countries in terms of the share of health expenditure they devote to public health. Table 4.2 shows the European countries with the lowest and highest share of expenditure on public

Table 4.1 *Information in the WHO Global Health Expenditure, Eurostat and OECD databases as of January 2018*

	WHO Global Health Expenditure database	Eurostat	OECD
Name of category	Previously “Prevention and public health services” (not available any more in January 2018)	“Preventive care” (Code HC 6)	“Preventive care” (“Public health and prevention” until 2017)
Data according to SHA 2011	Full data for 2000–2015 published in December 2017, but not including information on public health services	2006–2015	2000–2016
Data according to SHA 1.0	No longer available	2003–2012	Not available

Note: SHA: System of Health Accounts

health in 2014 and 2015. However, the countries covered by the databases differ. Cyprus and Romania, for example, are not OECD member states and not covered by OECD Health Statistics, but, as EU member states, they are covered by Eurostat.

Table 4.2 *Lowest and highest expenditure on public health in the European countries covered in the WHO Global Health Expenditure, Eurostat and OECD databases*

	WHO (2016)	Eurostat (2017)	OECD (2017)
	2014	2015	2015
Lowest	Cyprus: 0.6%	Cyprus: 0.7%	Greece: 1.3%
Highest	Romania: 7.4%	United Kingdom: 5.2%	United Kingdom: 5.2%

Note: Information on expenditure on public health not available any more from the WHO Global Health Expenditure database at the time of writing

The variability in expenditure on public health is on such a scale that it raises major question marks over the reliability of data. Expenditure seems improbably low for some countries (such as Cyprus). Noteworthy also is that Romania spent only 0.78% of its current health expenditure on public health in 2014, according to Eurostat, which contrasts with a much higher 1.78% in 2013, and a reported expenditure on “prevention and public health services” of 7.4% of total health expenditure in 2014, according to WHO’s 2016 Global Health Expenditure database (based on SHA 1.0).

While a detailed analysis of the data reported by these countries would be needed to come to any firm conclusions, the experience of Italy (Box 4.2) might help to explain some of the difficulties of gaining accurate estimates

of spending on public health. As with the current situation with Cyprus, in the past Italy had some of the lowest reported expenditures on public health as a percentage of total (or current) health expenditure. According to the 2013 edition of the WHO Global Health Expenditure database, expenditure on public health in Italy was as low as 0.6% of total health expenditure in 2007. Similarly, according to the OECD 2012 Health at a Glance publication, expenditure in Italy was reported to be only 0.5% of current health expenditure in 2010. This has now been corrected to 3.7% of current health expenditure in 2014, according to the 2015 OECD Health Statistics. While this may be closer to the truth, national data still indicate that a higher percentage is spent, with the most recent data suggesting a share of 4.2% in 2009 (Ministry of Health 2011a, 2011b), with roughly the same percentage in the following years.

Box 4.2 *Potential reasons for discrepancies between international and national data on financing for public health in Italy*

Several explanations have been put forward to explain the previously large discrepancies between international and national data on financing for public health in Italy. First, because many public health costs are intertwined with general health care costs and dispersed over national and regional sources of funding, it is difficult to estimate the resources specifically dedicated to public health. For instance, physicians' honorariums for medical care are documented as health care expenditure, but these activities also encompass preventive care. Similarly, mammography screening, dental care and laboratory tests undertaken in public hospitals are counted as health care expenditure. In addition, the absence of a clear and generally agreed definition of what to include under "public health" can cause confusion in data collection and reporting. Finally, the widespread dispersion of funds makes it difficult to identify and enumerate financial resources for public health. According to the OECD, "where preventive services are carried out at primary care level, the prevention function might not be captured separately and may be included under spending on curative care" (Signorelli, 2013).

Source: Poscia et al., 2018

The case of Italy illustrates that different understandings of "public health" among European countries have an impact on capturing data on financing for public health. In Italy "sanità pubblica" is commonly understood to comprise the entire public (but not private) health care sector and the services provided by the Italian NHS. In France, it is similarly difficult to distinguish between the public health care sector and public health services. Data on the financing of public health only relate to what is termed "institutional prevention" (Box 4.3).

In addition to some of the differences between data collected nationally and those reported internationally (which should be the same but often are not),

Box 4.3 *Data on financing for public health in France*

The currently available financing data on public health in France relate to “institutional prevention”, i.e. public health activities that are organized and financed through dedicated programmes at national or local level. Spending on institutional prevention in 2014 was €5.9 (5.864) billion, which translates into 2.3% of total health expenditure (Beffy et al., 2015). This includes mainly primary and secondary individual prevention and the financing of national programmes. It does not include prevention activities during medical consultations, activities and salaries of health workers from other ministries (school health, student health, occupational health), or complementary expenses by local governments (on the health of vulnerable people or on health promotion).

The spending on institutional prevention can therefore be considered a minimum estimate of what is spent on public health functions. For instance, a 2002 national survey published in 2006 tried to provide a better estimate of the percentage of current health spending dedicated to prevention activities. The result was 6.4% of current health spending (DREES, 2006). While this survey has not been repeated since, another study tried to estimate individual prevention in ambulatory care for the year 2012. The estimated expenses were €8.5 billion, i.e. nearly 50% more than total institutional prevention.

Source: Chambaud & Hernández-Quevedo, 2018

there also used to be differences in the data reported by the three international databases for some countries, as illustrated above with regard to Romania. The most pronounced differences could be found between those data reported in the WHO Global Health Expenditure database on the one hand and Eurostat and OECD databases on the other, although without a consistent pattern in reporting: for some countries, figures were identical, for others the share was reported as higher in Eurostat and in yet others it was reported as higher in the WHO database.

It can be assumed that these differences were mainly due to the fact that Eurostat and OECD are now using the System of Health Accounts, 2011, with the category of “preventive care”, while WHO still used the System of Health Accounts 1.0 (the system prior to 2011), with the category of “prevention and public health services”. Furthermore, the share of expenditure relates to “total health expenditure”, including capital investment, in the WHO database, but to “current health expenditure”, excluding capital investment, in the Eurostat and OECD databases.

Some countries also display slight differences between the data reported by Eurostat and OECD, although these differences are comparatively small, with the greatest difference in 2014 data for Luxembourg, amounting to 0.32% of current health expenditure. These differences are likely to be due to the different updating schedules of the databases. While OECD health data are published annually to coincide with the OECD Health at a Glance publication and then not updated until the following year's publication, the Eurostat database is updated continuously, on receipt of national reports.

Given these different accounting systems and the differences in the denominator used, the real surprise is then that, for some countries, the reported figures were identical in all three databases. The only plausible explanation is that some countries had not yet changed their accounting systems to the System of Health Accounts, 2011, but their data were nevertheless reported under the SHA 2011 heading by OECD and Eurostat. This can be illustrated by the data sources for the OECD Health Statistics 2017 for the reviewed countries covered by the OECD database (Table 4.3). Some countries (such as Germany or the Netherlands) had changed to the System of Health Accounts, 2011, revising data for many of the previous years. It is likely that they reported these data to all three databases and even if these, such as the WHO database, had not yet moved officially to the new system, they simply published what the countries reported to them. However, this still leaves the question of whether or not capital investment is included in total or current health expenditure (the denominator) unanswered.

Table 4.3 *Data sources for OECD Health Statistics, 2017*

Country	Other non-SHA sources	SHA 1.0	SHA 2011	OECD estimates
France	1970–1994	1995–2005	2006–2014	2016
Germany	1970–1990	–	1992–2016	–
Italy	1970–2011	–	2012–2016	–
The Netherlands	1972–1997	1998–2004	2005–2016	–
Poland	1990–2001	2002–2012	2013–2016	–
Slovenia	2000–2001	2002–2013	2014–2016	–
Sweden	1970–2000	–	2001–2016	–

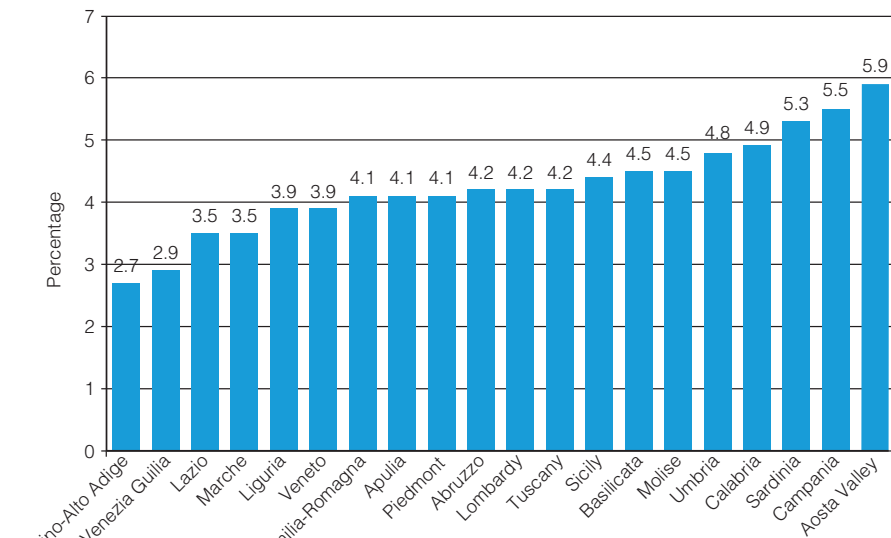
Note: SHA: System of Health Accounts.

OECD also noted on its database that its data for 2006–2015 were extracted from the 2017 Joint OECD–Eurostat–WHO Questionnaire and were not fully validated at the time of publication; they should be considered as preliminary estimates and may be subject to refinement.

Variations within countries

The data discussed so far relate to national averages. However, there can also be large variations within countries. In the Netherlands, for example, a great deal of the national public health budget flows to the municipalities that are largely free in how to spend these resources. Since the budget is not earmarked they may decide to spend more, but also less, on public health. Italy is one of the few countries for which more detailed information is available on expenditure across regions. In 2009, both absolute and relative expenditure on public health varied considerably across regions, ranging from €60 per capita in Friuli Venezia Giulia (2.6% of regional health expenditure) to €139 per capita in Valle d'Aosta (5.6% of regional health expenditure) (Meridiano Sanità, 2014). The distribution of funds within the broad category of prevention also showed great heterogeneity among regions. Although there is guidance from the national Ministry of Health that 5% of regional health expenditure should be allocated to public health, regions are free to vary this (Lo Scalzo, et al., 2009). More recent data, relating to 2014, illustrate that stark regional variations in spending on public health in Italy persist (Fig. 4.2).

Fig. 4.2 Spending on public health as percentage of regional expenditure on health in Italy, 2014



Source: The European House – Ambrosetti, 2016

Impact of the economic crisis

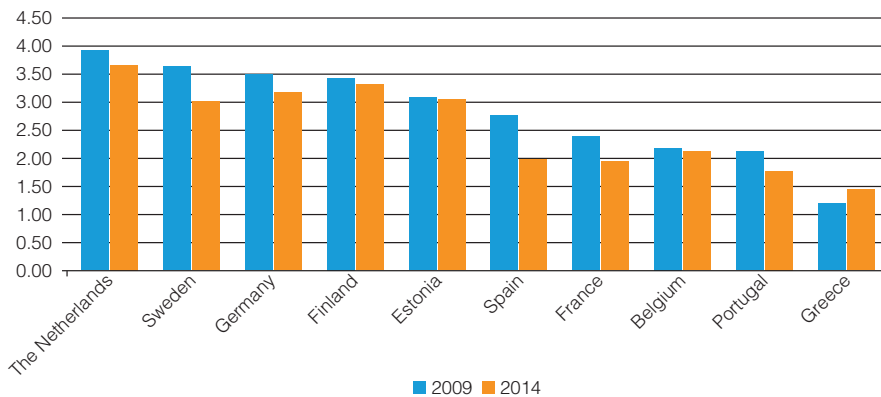
In the remainder of this chapter, which cites the available data on public health spending, important caveats are necessary for the reasons set out in the

previous sections. In particular, international comparisons are very problematic although, with care, as well as an understanding of known data discontinuities, information on trends over time may be informative.

The global economic crisis that has unfolded in the years since 2007 had a negative impact on the relative and total amount of resources devoted to public health in several European countries. In 2010 per capita spending on health in real terms declined in a number of European countries (OECD, 2015). This was due to a shrinking gross domestic product in several countries, as well as cutbacks in public spending as a result of austerity policies.

Public health and pharmaceuticals were the two areas of health spending that saw the brunt of cuts after 2007 (OECD, 2015). Comparing the share of health expenditure devoted to public health in 2009 and 2014, it becomes apparent that in almost all European countries for which data are available for this time period, the share of health expenditure devoted to public health declined (Fig. 4.3).

Fig. 4.3 *Share of financing for public health as percentage of current health expenditure, 2009 and 2014*



Source: Author calculation, based on Eurostat data

The cutbacks to public health services can be explained in several ways. Public health services tend to be a soft political target, without strong professional or commercial lobby groups, while the long-term (and short-term) benefits of public health interventions are often overlooked and there are often powerful opposing commercial interests (McGinnis, et al., 2002; Martín-Moreno, et al., 2012; Masters, et al., 2017).

Previous reports noted that public health programmes and interventions in several countries, including Bulgaria, Greece, Latvia and the United Kingdom,

had been scaled back substantially (Aluttis et al., 2013; Ifanti, et al., 2013). One study has raised concerns that reductions in spending on public health services have impaired tuberculosis case detection (Reeves et al., 2015).

Although not shown in Fig. 4.3, one of the countries facing major cutbacks to public health in recent years was England. While, when public health services were moved from the National Health Service (NHS) to local government in April 2013, financing for public health was initially “ringfenced”, in 2015 a £200 million in-year cut to the public health budget was announced, followed by further cuts. The situation was exacerbated by large cuts to the budgets of local authorities. This created a strong incentive for the local authorities to redesignate any other activity even vaguely linked to health as part of their “public health” spending, even including activities such as road maintenance, to keep up the pretence that public health spending was being protected.

The funding cuts to public health services also featured prominently in a number of the interviews we conducted in October 2016–January 2017. Illustrative examples are given in Box 4.4.

Box 4.4 *Interview quotes illustrating funding cuts to public health services*

England

“Between 2013 and now there have been major reductions in the [national] funding to local authorities. ... In some places, budgets of local authorities were reduced by about 30%. There was a significant funding impact on public health” (ENG – Interview 2).

France

“In the Ministry of Health, the possibility to finance public health was reduced in the last years and at the regional level [the funding reduction] is more evident, for example, when I asked the director of the Regional Health Agency of Paris Region, the maternal and child health protection system is in difficulty, because the entity that is financing this service is in big budgetary constraints” (FRA – Interview 2).

The Republic of Moldova

“You know about our financial crisis. It was talked about 1 billion dollars [this related to a scandal when this sum went missing from government accounts]. It’s a very big problem really, not only for salaries. Even the latest reform [merging 36 rayon centres of public health into 10 subnational centres] is in connection with this crisis” (MDA – Interview 1).

The Netherlands

“Expenditure to public health as a share of total health expenditure has declined in recent years. There are two main reasons for this. The first reason is that costs in curative care have increased tremendously in the last 10 years, driving up total health

expenditure. The second reason is that the policy for prevention in the Netherlands is rather modest, the government is not so ambitious in this area.” (NL – Interview 3).

“This lack of financing is partly related to the way that public health services are organized in the Netherlands. The municipalities are in charge of paying public health services and they are nearly autonomous. They receive a lump sum from central government for all tasks and are free to decide how to use it. Furthermore, there were cuts to the budgets of municipalities in recent years and they also have to help people who become jobless as a result of the financial crisis. Prevention only has a low priority. Priority-setting is a problem and health doesn’t play a major role.” (NL – Interview 3).

“After 2008 in the Netherlands, just as everywhere else, there were budget cuts all over the place, also in public health services. We do not yet have a clear view of that, because the study that we commissioned is still under way, so I have no idea whether these budget cuts were severe or how severe they were and what damage has been done. ... We have preliminary reports that in infectious disease control and youth health care everything is OK” (NL – Interview 2).

Poland

“Overall public health spending is unsatisfactory. ... A huge financial burden falls on local authorities/self-governments that do not have the financial resources.” (POL – Interview 1).

Slovenia

“In recent years, budgets have declined by about one third. This is linked, to a significant degree, to austerity measures since 2012 (SLO – Interview 1).

“The impression from international data is right in that the proportion going to public health is getting less. It has decreased heavily in recent years. This has been offset through EU funds and the Norwegian financial mechanism.” (SLO – Interview 3).

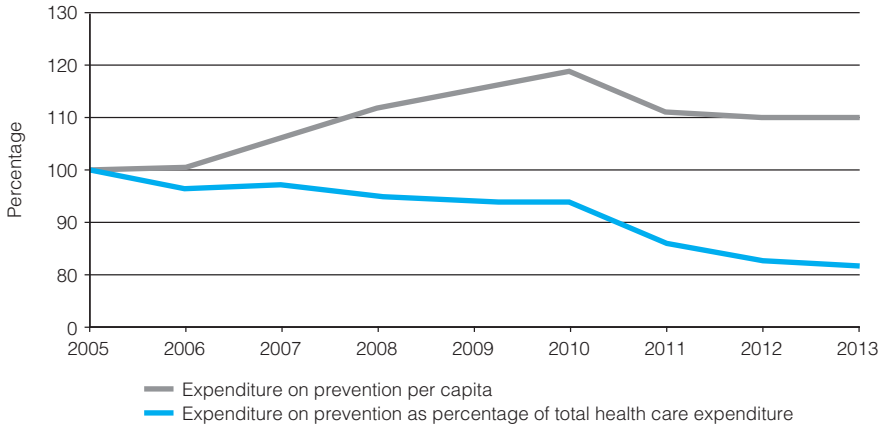
Sweden

“Financing data on public health from international organizations are not being used in Swedish debates. There is a focus on providers and functions, such as county councils, municipalities or primary health care, hospitals, etc. For most, there was no reduction in funding in recent years, as Sweden has not been affected by the economic crisis in 2009. There was an earlier crisis in Sweden in the early 1990s.” (SWE – Interview 1).

In France, national data indicate that the percentage of current health expenditure devoted to “institutional prevention” declined from 2.5% in 2006 to 2.2% in 2014. In the Netherlands, too, public expenditure cuts designed to reduce the government deficit had consequences for the financing of public health organizations who had to implement expenditure cuts and, in a number

of cases, reduce their activities. Some agencies struggled with financial problems (AEF, 2013). Expenditure on prevention declined as a share of current health expenditure since 2005 and as amount per capita since 2010 (Fig. 4.4).

Fig. 4.4 Expenditure for prevention in the Netherlands, 2005–2013



Source: Zorgbalans, 2014

Note: Expenditure levels based on 2005 figures; i.e. expenditure for 2005 set as 100% and percentages for following years calculated accordingly.

Italy is an example of a country that has increased resources devoted to public health in recent years, despite a challenging economic situation and financial constraints on the public sector. As part of the State–Region Agreement of 10 July 2014, the Ministry of Health and the regions decided to earmark an increased amount of national health funding to achieve the objectives of the 2014–2018 National Prevention Plan.

While the share of health financing devoted to public health is an important issue to consider, the intersectoral nature of many public health problems means that expenditure in other sectors is no less important. This means that public health services can play an important role in influencing budgets in other sectors to address public health problems. This may not show up in the System of Health Accounts, but can have a major impact on the success or failure of public health policies.

Other challenges to sustainability

Apart from the funding cuts to public health following the economic crisis, a number of other issues have been raised related to the sustainability of financing for public health. Several countries in central and eastern Europe, in particular some of the former Soviet countries, depend on international donors for some

elements of their public health programmes, especially the Global Fund against AIDS, TB, and malaria, resulting in a host of potential challenges, including the lack of sustainability (Bayarsaikhan & Muiser 2007; WHO, 2009), as many donors, including the Global Fund, have withdrawn from middle-income countries. In the Republic of Moldova, there were 21 national public health programmes in 2016, but only 2–3 of them were systematically financed by the national government. The remainder were either unfunded, underfunded, or dependent on external donors.

In several countries, the lack of a long-term planning and financing horizon has been noted, with financing decisions being taken on a short-term or ad-hoc basis. In Estonia, for example, the annual funding of disease prevention programmes, common in many countries, was reported to impede long-term planning. In Germany too, the flow of financial resources is not entirely predictable, as it depends on political processes and annual budgets in federal states and municipalities, allowing only for short-term or at most mid-term planning (up to 2–3 years). Italy is one of the few countries that has a long-term planning horizon for public health services, as evidenced in the national prevention plans, which ensure the stability and predictability of resources available for public health, as well as consistency over time with regard to the main public health targets. In Poland, state agencies, such as the State Sanitary Inspectorate, have the most stable source of financing, with programmes usually running for 3–5 years. The financial allocations to other actors involved in providing public health services, however, follow shorter time frames, not allowing for medium- to long-term planning.

Expenditure categories and breakdown

Information on the breakdown of national expenditure on public health is available from both national and international sources. The expenditure categories used in the old System of Health Accounts, the SHA 1.0, which are available from Eurostat alongside those of the System of Health Accounts, 2011, comprise:

- Maternal and child health; family planning and counselling;
- School health services;
- Prevention of communicable diseases;
- Prevention of noncommunicable diseases;
- Occupational health care;
- All other miscellaneous public health services.

Data on financing for public health, derived from the System of Health Accounts, 2011, provided by both Eurostat and OECD, are subdivided into the following categories:

- Information, education and counselling programmes;
- Immunization programmes;
- Early disease detection programmes;
- Healthy condition monitoring programmes;
- Epidemiological surveillance and risk and disease control programmes;
- Preparing for disaster and emergency response programmes.

At national level, other expenditure categories tend to be used, limiting scope for comparisons further. Ideally, spending should be aligned with population health needs and policy priorities. However, international or national expenditure categories do not always allow a judgement on whether this is the case or not.

The example of France, where the overall category of “institutional prevention” is being used to capture expenditure on public health, is shown in Table 4.4. “Individual primary prevention” includes organized vaccination programmes, prevention services for maternal and child health, family planning activities, occupational health (which in 2014 represented 28% of the total prevention budget and 55% of primary individual prevention) and school health activities. “Secondary individual prevention” includes: oral health, organized screening activities, and individual organized health assessments. “Collective prevention” includes public campaigns related to health determinants (such as nutrition; addictions, including for tobacco and alcohol; and physical activity), with a specific focus on environmental determinants and health protection.

Table 4.4 Spending on “institutional prevention” in France, by type of prevention, 2014

	€ million	%
Primary individual prevention	2 947	50.3
Secondary individual prevention	666	11.4
Collective prevention on behaviours	459	7.8
Collective environmental prevention and health protection	1 792	30.6
Total health prevention	5 864	100

Source: DREES Les dépenses de santé en 2014, September 2015

In Italy, the main expenditure categories in 2009 were hygiene and public health (44.5% of total funding for prevention), veterinary public health

(23.8%), occupational hygiene (13.3%) and food hygiene (7.9%). Other costs accounted for approximately 10% of expenditure on prevention (Meridiano Sanità, 2014). In the Netherlands, the main expenditure categories are disease prevention, health protection, and health promotion (Table 4.5).

Table 4.5 *Estimated budget for public health in the Netherlands, 2015*

Activity	Budget (€ million)	Percentage
Health protection	104	15.9
Disease prevention	477	73
Health promotion	54	8.3
Miscellaneous	18	2.8
Total	653	100

Source: Ministry of Health, Welfare and Sports, 2017

Typically, staff costs account for the lion's share of expenditure on public health services. The example of the Republic of Moldova is shown in Table 4.6. In the Republic of Moldova, staff costs accounted for 65.7% of the budget for public health services in 2014. A small percentage of resources were devoted to training or professional development and a high share was spent on capital investment, related to the country's extensive public health laboratory network.

Table 4.6 *Public health services budget in the Republic of Moldova by operational expenditure, 2013 and 2014*

Item of operational expenditure	2013 1000 MDL (%)	2014 1000 MDL (%)
Staff costs	128 640 (59.2)	129 830 (65.7)
Training/professional development	890 (0.4)	1 287 (0.7%)
Goods and services	36 022 (16.6)	29 425 (14.9)
Capital investment/expenditures	50 258 (23.1)	32 769 (16.6)
Others	1 595 (0.7)	4 315 (2.2)
Total budget	217 405 (100)	197 626 (100)

Source: Ministry of Health of the Republic of Moldova, unpublished data

Note: MDL: Moldovan leu

A breakdown of expenditure on preventive care by provider is given by the OECD Health Statistics (Table 4.7). It illustrates that the traditional public health service structures ("providers of preventive care") in many countries are not the main recipients of funding for preventive care, which is instead directed substantially to ambulatory care or even hospitals. Differences between

Table 4.7 Providers of preventive care as percentage of total spending on preventive care

	Hospitals	Residential long-term care facilities	Providers of ambulatory health care	Providers of ancillary services	Retailers and other providers of medical goods	Providers of preventive care	Providers of health care system administration and financing	Rest of the economy	Rest of the world
Austria	-	-	51.3	-	-	38.4	-	10.2	-
Belgium	0.0	-	25.5	0.8	-	51.5	22.2	-	-
Czech Republic	8.2	0.0	53.3	3.7	0.1	10.1	-	-	-
Denmark	0.0	-	51.8	-	-	48.2	0.0	-	-
Estonia	5.3	0.0	48.8	1.5	0.0	35.6	3.3	5.4	0.0
Finland	10.8	-	76.5	-	-	2.7	-	9.9	-
France	0.2	-	22.3	0.4	-	64.9	-	12.2	-
Germany	5.8	-	50.8	0.5	-	19.2	11.3	12.2	0.1
Greece	0.0	-	71.3	-	-	28.7	-	-	-
Hungary	33.8	-	22.4	-	-	15.4	-	28.5	-
Iceland	-	-	72.6	-	-	27.4	-	-	-
Ireland	-	-	18.2	-	-	40.5	-	41.3	-
Italy	-	-	23.4	-	-	76.6	-	-	-
Korea	24.0	-	26.9	-	-	35.4	11.3	2.4	-
Latvia	12.3	0.0	56.2	4.8	-	15.7	10.9	0.0	-

Luxembourg	0.1	-	32.9	0.4	1.4	35.2	-	30.0	0.0
Mexico	-	-	-	-	-	100.0	-	-	-
The Netherlands	-	2.5	30.4	14.5	-	49.6	-	2.9	-
Norway	4.5	-	6.9	-	-	88.6	-	-	-
Poland	0.2	0.0	40.6	-	-	4.8	49.3	5.1	-
Portugal	0.0	1.0	68.6	3.8	-	4.6	-	22.0	-
Slovak Republic	-	-	-	-	-	86.1	-	13.9	-
Slovenia	9.3	-	71.3	1.8	-	14.5	1.9	1.1	-
Spain	0.4	-	61.6	1.5	-	35.8	0.3	0.4	-
Sweden	-	-	30.6	-	-	49.9	-	19.5	-
Switzerland	-	-	1.9	-	-	47.2	51.0	-	-
United Kingdom	10.0	-	53.0	-	-	33.6	-	3.4	-
United States	-	-	-	-	-	100.0	-	-	-

Source: OECD, 2017

Notes: a) 0.0% refers to spending lower than 0.05%, but greater than zero;

b) The percentages in the "Rest of the world" column refer to the contributions of non-resident providers of preventive care located outside the country in question.

countries are pronounced, but these are also likely to have something to do with differences in accounting, such as how well public health activities by other actors inside or outside the health system are captured.

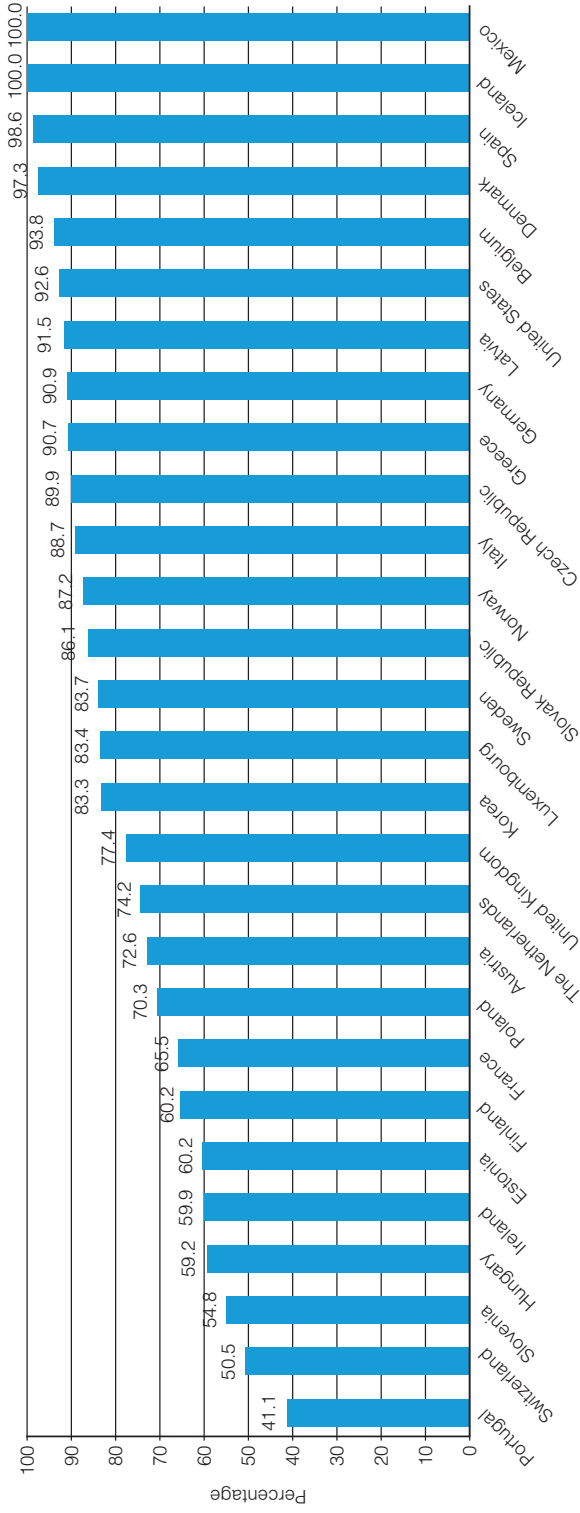
Sources of financing for public health

A breakdown of budgets for prevention and public health by financing scheme shows that public funds are the main source of financing in most European countries for which data exist (Fig. 4.5). At the same time, private sources of funds account for a substantial share of expenditure on public health in several countries, with the highest share in Portugal, Estonia and Hungary. It is not clear what this private funding refers to, but it could include fees for inspections or the commercial use of public health laboratories, in which case it is arguable that neither the income nor expenditure should be included under the heading of public health.

A more detailed breakdown by financing scheme (Table 4.8) shows that, in most countries, private out-of-pocket expenditure by households is either nonexistent or accounts for only a small share of expenditure on public health, with the notable exceptions of Austria (17.2%), Switzerland (17%) and the United Kingdom (11.4%). Again, it is not clear what this out-of-pocket financing refers to. Reported sources of public finance typically include a mix of general government expenditure and dedicated social security funds, although there are also some countries without social health insurance systems where general government expenditure accounts for all of public financing.

Private sources of finance

In some countries there has been a deliberate policy to increase the role of private sources of funding, especially in some countries in central and eastern Europe and the former Soviet Union, where, as noted above, laboratories derive additional income from commercial activities (WHO, 2009; Duran & Kutzin, 2010; Gotsadze et al., 2010). In Slovenia, for example, fees for services diverted attention from core activities of institutes of public health (WHO, 2009). The Ministry of Health decided in 2012 to address this situation by separating all laboratories from public health institutes and merging them to create a national Laboratory for Health, Environment and Food. In several former Soviet countries, including Armenia and Kyrgyzstan, charges have been introduced for public health inspections, with uncertain consequences (Duran & Kutzin, 2010). These examples illustrate the potential pitfalls that can arise when basing expenditure for public health on private sources of funding. It is well known that user charges are regressive, limit demand for care and do not necessarily lead to savings (Thomson et al., 2010).

Fig. 4.5 Public sources as percentage of expenditure on preventive care, 2015


Source: OECD, 2017

Table 4.8 Expenditure on preventive care by financing scheme, in percentage, European OECD member states, 2015

	Government schemes	Compulsory contributory health insurance schemes/CMSA	Voluntary health care payment schemes	Household out-of-pocket payments	Total
Austria	49.8	22.8	10.2	17.2	100.0
Belgium	67.5	26.3	6.2	–	100.0
Czech Republic	16.6	73.3	10.1	–	100.0
Denmark	97.3	–	2.7	–	100.0
Estonia	39.4	20.8	39.8	–	100.0
Finland	44.2	20.7	35.1	–	100.0
France	48.8	16.7	34.5	–	100.0
Germany	20.9	69.9	8.6	0.5	100.0
Greece	90.7	–	9.3	–	100.0
Hungary	24.8	34.4	33.6	7.1	100.0
Iceland	100.0	–	–	–	100.0
Ireland	59.9	–	40.1	–	100.0
Italy	88.7	–	10.4	1.0	100.0
Latvia	91.5	–	–	8.5	100.0
Luxembourg	74.8	8.5	16.6	0.0	100.0
The Netherlands	49.6	24.6	22.6	3.2	100.0
Norway	86.6	0.6	11.4	1.3	100.0
Poland	55.3	14.9	29.7	–	100.0
Portugal	41.1	–	50.4	8.5	100.0
Slovak Republic	86.1	–	13.9	–	100.0
Slovenia	7.5	47.3	45.2	–	100.0
Spain	97.6	1.0	1.4	–	100.0
Sweden	83.7	–	13.4	2.9	100.0
Switzerland	32.7	17.8	15.8	33.7	100.0
United Kingdom	77.4	–	11.3	11.3	100.0

Source: OECD, 2017

Note: CMSA: Compulsory Medical Savings Accounts.

On the whole, however, user charges for public health services seem to be the exception rather than the rule in Europe, in particular in Western Europe. In England, for example, public health services are still regarded as “passported”

NHS services, even after their move to local authorities; they are thus part of publicly financed health services and not subject to charging. Some individuals, however, may choose to pay for private screening services, stop-smoking and other public health and lifestyle services, despite very limited evidence of effectiveness and concerns, at least for the former, that they increase unnecessary demand for health care. In France too, public health services tend to be free of charge, while in Poland none of the public health programmes impose any out-of-pocket payments. In Germany, users have to pay out-of-pocket for public health services only in rare cases, such as when they need a health certificate for their job or business, e.g. teachers and civil servants, fire-fighters or taxi-drivers. However, the issuance of such certificates would not be considered a public health function in many countries. Similarly, in Slovenia public health services that are delivered through publicly financed programmes and projects are free of charge. However, immunization for foreign travel, for example, has to be paid for out-of-pocket, while preventive check-ups for drivers and workers are paid for by employers. In England too, travel immunizations and malaria prophylaxis must be paid for by individuals, often from private travel clinics.

Public sources of finance

Taxation and social health insurance funds are the two main sources of public finance for public health and, in countries with social health insurance systems, both types of public financing tend to be used (Box 4.5; Table 4.8). This has also been found in a review of funding mechanisms for health promotion in Europe (Arsenijevic et al., 2016).

In contrast, the Netherlands, which like Germany largely relies on health insurance to pay for curative health services, finances prevention activities mainly through general taxation (Kroneman et al., 2016). There, the revenues of the public health services come from the municipalities (64%), the national government or other (public) funders (subsidies, research contracts, and so on) (11%) and market activities (such as travellers' vaccinations) (AEF, 2013). As one interviewee explained:

nearly all prevention in the Netherlands is funded by taxes. There are no incentives and no money from health insurance companies for this. The national immunization programme is funded by the national government. Immunizations are carried out by special child health services, which are part of the public health services. There are some pilot projects in which municipalities and health insurance companies cooperate and jointly finance projects. There is one such project addressing obesity in children in Utrecht which is quite successful. However, it is difficult to scale up these pilots (NL – interview 3).

Box 4.5 *Public sources of financing for public health in Germany*

In Germany, most preventive measures aimed at individuals, such as immunizations, screening programmes and health check-ups are carried out by office-based physicians and paid from the sickness funds' benefit package, while population-based health promotion activities are also paid for by the sickness funds (Busse & Blümel, 2014).

The public health service (*Öffentlicher Gesundheitsdienst, ÖGD*) is mainly financed from public budgets, and to a lesser extent by fees levied by the public health service for some services. The states and municipalities bear the cost of health offices, the federal government assumes the costs of the successor companies of the Federal Health Office and other higher federal authorities for public health. The federal government also funds research projects in the field of public health. Small-scale projects (e.g. up to €5 000) are financially supported by statutory health insurance funds, but applications are needed to retrieve these funds, even if they are part of a regional or national programme such as the National Cooperation Network "Equity in Health" and its Partnership Programme with the Healthy Cities Network.

The budget of the public health service depends on its status as state authority or municipal authority or department. The local health authority or public health department will receive its budget from the municipality, district or state to which it administratively, and as an organizational unit, belongs to. The annual budget has to be negotiated every budget year, with the budget committee of the municipality or the next higher administrative level.

Source: Plümer, 2018

The countries of central and eastern Europe and the former Soviet Union also use tax-based budgetary funding from the central level to fund public health services (Gotsadze et al., 2010), with few significant reforms since the fall of communism (Duran & Kutzin, 2010).

However, even in these countries a mix of public financing sources seems to be common, such as in the Czech Republic, where preventive services provided by GPs (vaccinations and screening) are covered by the benefit package of the health insurance fund, but the Ministry of Health provides direct, tax-based funding to public health services, such as specialized health programmes (Bryndova et al., 2009). In Croatia and Slovenia the national vaccination programmes are entirely covered by the respective health insurance funds (WHO, 2007b; WHO, 2009). Austria also relies on a mix of financing sources: four sixths of the cost of vaccines is borne by the federal government, and the remaining two sixths are paid by the *Länder* (regions) and the social health insurance institutions, who pay one sixth each. The costs of administration,

distribution and administering are paid by the *Länder*. The financing of health promotion activities draws on a mix of federal and *Länder* funds (Hofmarcher & Quentin, 2013). The Republic of Moldova also uses a mix of financing sources, comprising taxation, health insurance funds and user fees (Box 4.6).

Box 4.6 *Financing sources for public health in the Republic of Moldova*

In the Republic of Moldova the Ministry of Health is in charge of planning and executing the state budget in the health sector, taking into account the needs of its subordinated institutions and national programmes. Once the budget has been approved by Parliament, the Ministry of Health reallocates the resources based on current priorities or emerging needs. Public health institutions also generate their own revenues from providing services such as laboratory services and sanitary testing, amounting to approximately 25–30% of their budgets.

Annually, resources for prevention measures are also allocated from mandatory health insurance funds (managed by the National Health Insurance Company). These resources are used for the procurement of vaccines, the implementation of screening programmes and some health promotion activities coordinated and managed by the National Health Insurance Company.

The government contributes to total health financing both by allocating a certain percentage (not less than 12.1%) of the total government budget to the National Health Insurance Fund and by directly financing public health services as well as national public health and special programmes. The public health programmes (e.g. the National Alcohol Control Programme; the National Tobacco Control Programme; the National Food and Nutrition Programme; the National TB Control Programme; the National HIV/AIDS Control Programme) have mixed sources of funding. They are funded from the national state budget, mandatory health insurance funds, and some programme activities are covered by external donors. As each programme involves other sectors (agriculture, industry and enterprises, financing and taxation, education, youth and sport, public order etc.), each of these sectors plan and allocate resources from their own budgets for financing and implementing activities within those national programmes for which these are responsible.

Source: Ciobanu et al., 2018

In Poland the key source of financing of public health services is the general government budget, accounting for 69% of total spending on prevention and public health services. The contribution of the private sector is substantial, accounting for 31% of total spending on public health. About 29% of general government spending on prevention and public health comes from social security funds (the National Health Fund). Public health services that are part of the health care benefit basket (e.g. screening programmes or vaccinations)

are financed from the National Health Fund. In 2015, the National Health Fund spent 0.24% of its overall budget on prevention and public health programmes (CSO, 2016). According to the 2015 Law on Public Health, from 2017 onwards the National Health Fund will be obliged to spend 1.5% of its overall budget on preventive services.

In countries without social health insurance systems, taxation is the main source of public financing. In England, for example, all public health services are funded from general taxation. In Italy the Ministry of Health allocates funds from the state's health budget (the National Health Fund) to the regions which are required to distribute their resources more or less along the following lines: primary care (44%), secondary–tertiary care (51%) and prevention (5%). However, regions have complete freedom over the allocation of funds among the various services (Ricciardi et al., 2009), in accordance with regional planning targets (Lo Scalzo et al., 2009). In Sweden expenditure on public health is also mostly based on taxation, derived from national, regional and local taxes.

Finally, international agencies and other donors can be an important source of funding for some elements of public health in some countries (Box 4.7).

Box 4.7 *International sources of funds for public health in Slovenia*

The Ministry of Health co-finances the participation of Slovenia's public institutions and NGOs in EU projects. Since 2008, through its budget the National Institute of Public Health (NIPH) has contributed to several EU projects and joint actions and was responsible for coordination of, for example, a capacity-building project on alcohol (2008–2011) and EU joint action initiatives on cancer control, The European Partnership for Action Against Cancer (EPAAC, 2009–2014) and the European Guide on Quality Improvement in Comprehensive Cancer Control (Cancon, 2014–2017). In addition, recognizing that cooperation in EU and other international projects was contributing to building Slovenia's own capacities in specific areas of public health, a separate budget line was established for this purpose at the Ministry of Health. Involvement in EU projects and networks is also an advantage for NGOs when applying for co-financing in public tenders.

EU financial mechanisms offer another important financial source. Until 2014 public health was not included, as such, in agreements between Slovenia and the EU. The only health priority financed through this source was the development of e-health. In 2014, public health was successfully included in the operational plan for the promotion of social inclusion. In the partnership agreement between Slovenia and the European Commission for the period 2014 to 2020 it was argued that investments in the prevention of risk factors, early detection of disease and quality of care can contribute to reducing premature mortality in Slovenia, and it was agreed to put health promotion,

prevention and early detection of diseases, and fostering a healthy lifestyle throughout the lifecycle at the forefront. It was also argued that health inequalities that arise from socioeconomic status, and may be prevented through well-targeted health promotion and disease prevention programmes, deserve due attention (Government of Slovenia and European Commission, 2014). About €26 million will be available for cooperation between health and social affairs in prevention and treatment of alcohol dependency at the community level, illicit drugs harm-reduction programmes, awareness and health literacy programmes and further development of preventive programmes in primary health care centres.

As well as EU resources, Slovenia also gained access to additional funding through a financial mechanism from the Government of Norway. A grant of approximately €11.7 million was approved in 2013 for projects aiming to improve public health and reduce health inequalities and for the promotion of gender equality and work-life balance.

Level of government

European countries also differ with regard to which level of government provides tax-based funding for public health activities. In general, subnational levels of government play an important financing role in federal or decentralized systems. In Finland, for example, municipalities are responsible for funding immunizations (Vuorenkoski et al., 2008). They are also the main funders of health promotion activities, but they are supplemented by central budgetary allocations (Vuorenkoski et al., 2008). This is, however, changing as part of a wide-ranging local government reform involving the creation of larger regions. In Denmark, vaccination programmes are financed by the regions (Strandberg-Larsen et al., 2007; Olejaz et al., 2012), while in Belgium two thirds of vaccination costs are borne by the federal government and one third by the communities (Gerkens & Merkur, 2010). In almost all countries of central and eastern Europe and the former Soviet Union, tax-based funding comes from the central government, but there are exceptions, such as Poland, which has introduced co-funding from the local government (Gotsadze et al., 2010). In Poland, spending on public health services from the Ministry of Health budget is channelled via specific public health programmes, each with their own budget, which are coordinated by selected agencies. Local public health programmes are financed by regional and local authorities, which can independently decide how to spend their budgets, according to local needs. Alcohol control measures account for the largest part of health care expenditure of *gminas* (Polish municipalities) and the second largest part of health care expenditure of cities with *powiat* (county) status.

Earmarked taxes for public health

Some European countries have introduced earmarked taxes for public health activities. The most prominent example is the earmarking of tobacco tax revenues for national tobacco control programmes. In 2007 a report from the WHO European Region identified a number of countries that had established mechanisms for earmarking of tobacco tax, most of which (including Finland, Iceland, Poland, Serbia, Montenegro, and Switzerland) used the earmarked funds for tobacco control and health promotion. Poland, Finland and Iceland earmarked 0.5%, 0.75% and 0.9%, respectively, of tobacco tax for this purpose (WHO, 2007a). Crucially, public support for increases in tobacco tax (an effective way of reducing tobacco consumption) seems to be greater when increases are earmarked for health promotion and tobacco control (Vardavas et al., 2012). However, the primary benefit of taxes on tobacco is reducing their affordability and the most effective tobacco control measures, such as bans on smoking in public places and standardized packaging, cost little or nothing.

Earmarking of alcohol tax for public health activities is also done in several European countries. One example is Poland, where licensing fees for retail sales of alcoholic beverages are paid to municipal councils and earmarked for the implementation of municipal programmes for the prevention of alcohol-related problems. Furthermore, 10% of value-added tax (VAT) revenues from the sale of alcohol products are allocated to a special fund for sport activities that is managed by the Ministry of Sport and Tourism. However, as with tobacco, the main benefit of specific taxes is to reduce affordability and thus overall consumption, an approach strongly attacked by the alcohol industry which prefers largely ineffective, or even counterproductive, education campaigns. The National Programme for the Prevention and Solving of Alcohol-Related Problems and the Programme on Reducing Health Consequences of Tobacco Smoking are meant to be funded by 1% of the revenue from alcohol excise tax and 0.5% of the revenue from tobacco excise tax. However, official audit reports show that much less is spent (Supreme Audit Office, 2013).

With the exception of taxes on tobacco and alcohol, however, the use of fiscal instruments for public health is not yet widespread, although some countries have attempted to introduce taxes on foods containing saturated fats and, following on the considerable success in Mexico and some parts of the USA, on sugar-sweetened beverages, with the United Kingdom and France being examples. Ideally, income from these taxes should be added to general revenue and not earmarked for health promotion, not least because if they are successful in reducing consumption the amount available for public health will decline. Indeed, the experience in the United Kingdom is that income is less than expected, as manufacturers have reformulated their products to reduce

sugar content, an immediate success of the policy. However, sugar taxes are very strongly opposed by manufacturers, who have engaged in expensive and sustained campaigns of misinformation.

In Germany, Italy, the Republic of Moldova and Slovenia, there are currently no earmarked taxes for public health services or activities. However, there are proposals and ongoing discussions in several countries. In Slovenia, for example, there were several attempts by NGOs to introduce an earmarked tax on tobacco products. However, it was not until 2016 that the Minister of Health included this initiative in proposed new tobacco control legislation. The issue has generated much media and public attention, in particular due to the immediate counter-lobbying by the tobacco industry. It is estimated that such an earmarked tax (50 cents per pack of cigarettes) would generate an additional €60–100 million that could be spent for health purposes, including prevention and health promotion (Petrič et al., 2018). As one interviewee explained, there were also attempts to introduce a sugar tax in Slovenia:

There have been three [2012, 2013 and 2014] attempts, so far, to introduce a sugar tax but they have been unsuccessful due to heavy industry lobbying against it. Despite this, there have been some positive outcomes, for example, the National Institute of Public Health and the Ministry of Health have much better relations with the Ministry of Finance and developed multidisciplinary competencies. The attempts also spurred on attempts at self-regulation. For example the Chamber of Commerce working with drinks companies and also with the bakery businesses – they have set up a steering committee which aims to secure pledges by companies to reduce the sugar content in their products (SLO – interview 1).

Pooling of public funds

There are different arrangements in place for pooling public funds from different sources or sectors. In some countries, such arrangements are still uncommon. An example is Poland, where the use of mixed methods of funding for public health programmes that involve two or more sectors is very rare and public health programmes have so far been managed by the Ministry of Health in isolated silos. However, this is slowly changing and one interviewee noted that the “cooperation with other ministries is getting closer and closer” (POL – Interview 2).

Other countries have developed mechanisms that allow for the pooling of funds from different sectors. In England, there are permissive mechanisms, such as Health and Well-Being Boards and other partnership forums, through which

local authorities can pool funding with local clinical commissioning groups to fund activities such as alcohol services, and to attempt to compensate for the fragmentation created by the 2012 health reforms in areas such as sexual health services. In France, there are mixed methods of funding in place for public health programmes that involve two or more sectors. This is the case at the local level with the local health contracts, in which the regional health agencies, local governments (usually municipalities) and other financial sources agree to finance and develop public health activities. Some agreements can also occur at the regional level between the regional health agencies (ARSs) and other institutions within a specific coordination committee on public health. These agreements or contracts are not compulsory, but pursued on a voluntary basis.

Payment of public health services provided by primary health care

In many European countries (including Austria, the Netherlands, Denmark, the Czech Republic, and the United Kingdom), payment of primary health care providers involves a mixed system, based on the number of registered patients (capitation), fee-for-service, payment for implementation of certain programmes, and payment for performance (Fujisawa & Lafortune 2008; Katic et al., 2012; Olejaz et al., 2012). Performance or programme-based payment can involve targets, some of which are related to public health activities. In Sweden for example, some county councils use a small performance-based element of payment (2–3% of the total payment) that is partly dependent on the provision of preventive services (Anell et al., 2012). In Estonia, GPs receive specific incentives to offer preventive services, including counselling patients on medical and behavioural risks. Since 2006, preventive check-ups have been linked with the GPs' bonus system, which includes criteria for coverage of certain age groups (people aged 40–60 years) (Lai et al., 2013). In south-east Europe, several countries have adopted such combined payment systems (Rechel et al., 2012). In Montenegro, 10% of earnings of primary health care teams are directly related to implementing prevention programmes (Ostojic & Andric, 2012). One model that has attracted much interest is the Quality and Outcomes Framework introduced for family medicine in the United Kingdom in 2004 (Katic et al., 2012). This pays extra funds to GPs for meeting a range of targets, some of which relate to disease prevention (Boyle, 2011). However, the results from evaluations were disappointing and in 2013 the maximum percentage of practice income linked to quality indicators was reduced from 25% to 15%, while Scotland dropped the scheme in 2016 in favour of a quality improvement scheme (Roland & Guthrie, 2016).

Conclusion

This analysis of available information on the financing of public health services in Europe suggests that there is little harmonization or standardization of how financing data are captured and accounted for. At present different data are reported in different international databases and each of these datasets might be at odds with nationally reported data. These differences undermine the credibility of international reporting of health data, which is also not helped by the fact that an improbably low share of total (or current) health expenditure devoted to public health is reported from some countries and an improbably high share in others (Box 4.8).

Box 4.8 *Key messages on financing for public health*

- There are major concerns about the accuracy of data on financing for public health.
- Overall, resources spent on public health seem low and have declined further in the wake of the international economic crisis.
- The public health community seems to have failed to make a convincing case for investment in public health, but there was also a lack of political will.
- It is also crucial to influence budgets outside the health sector to address public health problems.
- Staff costs account for the bulk of expenditure for public health.
- The public sector is the main source of financing for public health, through general government expenditure, social security funds or a mix thereof.
- Earmarked taxes on harmful substances are an effective way of curbing their use, but are unlikely to be the solution for sustainable financing for public health.
- There is scope for improved pooling of resources and strategic purchasing.

Overall, the share of total (or current) health expenditure devoted to public health services in Europe is small and has declined further in the wake of the international economic crisis. A number of countries have reported cuts and these are also visible in the internationally reported health financing data. It seems that, in a challenging economic climate, curative services were more successful than preventive services in holding on to (and increasing) financial resources and that the public health community has failed to make a convincing case for continued investment in public health – despite the proven cost effectiveness of many public health interventions. In addition to cuts in spending, other challenges to financial sustainability can be identified, most notably the lack of long-term funding commitments, undermining long-term planning horizons.

In terms of the allocation of funds, the categories used to break down expenditure (where available) differ between countries. In general, staff costs account for the highest share of expenditure.

In most countries, the public sector is the main source of financing for public health services. However, there are also countries with a large share of private sources of funds, with the highest shares in Portugal, Estonia and Hungary. Yet, private out-of-pocket expenditure by households accounts for only a small share of expenditure on public health. Instead, non-profit organizations or corporations tend to play a more important role as sources of private funding. Sources of public finance generally include a mix of general government expenditure and social security funds, although in countries without social health insurance systems general government expenditure accounts for all of public financing. Earmarked taxes for public health services are not yet widely used and, where they exist, are mostly confined to taxes on alcohol and tobacco with possible expansion to sugar-sweetened beverages. However, there are ongoing discussions in several countries on whether such taxes should be introduced or increased and widened and these might help to fill some of the funding gaps for public health services that have emerged in recent years.

References

- AEF (Andersson Elffers Felix) (2013). *Borging van de publieke gezondheid en de positie van de GGD [Assurance of public health and the position of the GGD]*. Utrecht: Andersson Elffers Felix.
- Allin S, Mossialos E, McKee M, Holland W (2004). Making decisions on public health: a review of eight countries. Copenhagen: World Health Organization on behalf of the European Observatory on Health Systems and Policies.
- Aluttis C, Chiotan C, Michelsen K, Costongs C, Brand H (2013). Review of public health capacity in the EU. Luxembourg: European Commission Directorate-General for Health and Consumers.
- Anell A, Glenngård A, Merkur S (2012). Sweden: Health system review. *Health Syst Transit*.14(5):1–159.
- Arsenijevic et al. (2016). A review of health promotion funding for older adults in Europe: a cross-country comparison. *BMC Health Serv Res*.16(Suppl 5):288.
- Bayarsaikhan D, Muiser J (2007). Financing health promotion. Geneva: World Health Organization.
- Beffy M, Roussel R, Solard J, Mikou M (2015). Les dépenses de santé en 2014. Drees, Collection Études et statistiques.

Boyle S (2011). United Kingdom (England): Health system review. *Health Syst Transit*.13(1):1–486.

Bryndova L, Pavloková K, Rokosova M, Gaskins M, Ginneken E (2009). Czech Republic: Health system review. *Health Syst Transit*.11(1):1–122.

Busse R, Blümel M (2014). Germany: health system review. *Health Syst Transit*.16(2):1–296.

Central Statistical Office (2016). National Health Accounts 2014. Information note, 25 November 2016. Warsaw: Central Statistical Office. (<http://stat.gov.pl/obszary-tematyczne/zdrowie/zdrowie/narodowyrachunek-zdrowia-2014,4,6.html>, accessed 14 August 2017).

Chambaud L, Hernández-Quevedo C (2018). France. In Rechel B et al. eds. *Organization and financing of public health services in Europe: Country reports*. Copenhagen: World Health Organization (acting as the host organization for, and secretariat of, the European Observatory on Health Systems and Policies): 23–34.

Ciobanu A, Habicht J, Serbulenco A, Gheorghita S (2018). Republic of Moldova. In Rechel B et al. eds. *Organization and financing of public health services in Europe: Country reports*. Copenhagen: World Health Organization (acting as the host organization for, and secretariat of, the European Observatory on Health Systems and Policies): 65–78.

de Bekker-Grob E, Polder J, Mackenbach JP, Meerding W (2007). Towards a comprehensive estimate of national spending on prevention. *BMC Public Health*. 7(252).

DREES (2006). Études et résultats – 504 – Les dépenses de prévention et les dépenses de soins par pathologie en France. Paris: DREES. (<http://drees.solidarites-sante.gouv.fr/IMG/pdf/er504.pdf>, accessed 23 May 2018).

Duran A, Kutzin J (2010). Financing of public health services and programmes: time to look into the black box. In: Kutzin J, Cashin C, Jakab M eds. *Implementing Health Financing Reform. Lessons from countries in transition*. Copenhagen: World Health Organization, on behalf of the European Observatory on Health Systems and Policies: 247–268.

Fujisawa R, Lafortune G (2008). The remuneration of general practitioners and specialists in 14 OECD countries: What are the factors influencing variations across countries? Paris: OECD.

Gerkens S, Merkur S (2010). Belgium: Health system review. *Health Syst Transit*.12(5):1–266.

Gotsadze G, Chikovani I, Gogvadze K, Balabanova D, McKee M (2010). Reforming sanitary-epidemiological service in Central and Eastern Europe and the former Soviet Union: an exploratory study. *BMC Public Health*.10(440).

Hofmarcher MM, Quentin W (2013). Austria: health system review. *Health Syst Transit*.15(7):1–292.

Ifanti A, Argyriou A, Kalofonou F, Kalofonos H (2013). Financial crisis and austerity measures in Greece: their impact on health promotion policies and public health care. *Health Pol*.113(1–2): 8–12.

Katic M, Jurkovic D, Juresa V (2012). The combined way of paying family medicine in Croatia. In: Bartlett W, Bozиков J, Rechel B eds. *Health Reforms in South East Europe*. Houndmills, Palgrave Macmillan: 193–206.

Kroneman M, Boerma W, van den Berg M, Groenewegen P, de Jong J, van Ginneken E (2016). Netherlands: Health System Review. *Health Syst Transit*.18(2):1–240.

Lai T, Habicht T, Kahur K, Reinap M, Kiivet R, van Ginneken E (2013). Estonia: health system review. *Health Syst Transit*.15(6):1–196.

Lo Scalzo A, Donatini A, Orzella L, Profili S, Cicchetti A, Maresso A (2009). Italy: Health system review. *Health Syst Transit*.11(6):1–216.

Martín-Moreno JM, Anttila A, von Karsa L, Alfonso-Sanchez JL, Gorgojo L (2012). Cancer screening and health system resilience: Keys to protecting and bolstering preventive services during a financial crisis. *Eur J Cancer*.48(14):2212–2218. doi:10.1016/j.ejca.2012.02.060.

Masters R, Anwar E, Collins B, Cookson R, Capewell S (2017). Return on investment of public health interventions: a systematic review. *J Epidemiol Community Health*.71(8):827–834.

McGinnis JM, Williams-Russo P, Knickman JR (2002). The case for more active policy attention to health promotion. *Health Aff (Millwood)*.21(2): 78–93.

Meridiano Sanità (2014). *Le coordinate per la salute. Rapporto finale [Coordination for health. Final Report]*. Milan: The European House — Ambrosetti S.p.A. (<http://www.ambrosetticlub.eu/ricerche/altre-ricerche-ambrosetti/item/9157-rapporto-finalemeridiano-sanita-2014>, accessed 30 May 2018).

Ministry of Health (2011a). *Rapporto nazionale di monitoraggio dei Livelli Essenziali di Assistenza Anno 2007–2009 [National Report for the Monitoring of Essential Levels of Assistance for 2007–2009]*. Rome: Ministry of Health. (http://www.salute.gov.it/imgs/C_17_pubblicazioni_1674_allegato.pdf, accessed 30 May 2018).

Ministry of Health (2011b). *Rapporto Verifica Adempimenti LEA Anno 2011* [Report on Compliance with LEA in 2011]. Rome: Ministry of Health. (http://www.salute.gov.it/imgs/C_17_pubblicazioni_1988_allegato.pdf, accessed 30 May 2018).

Ministry of Health, Welfare and Sports (2017). *Begroting Volksgezondheid, Welzijn en Sport* [Budget Public Health, Welfare and Sport]. The Hague: Ministry of Health, Welfare and Sports. (<http://www.rijksbegroting.nl/2017/>, accessed 15 June 2018).

Moulton A, Halverson P, Honoré P, Berkowitz B (2004). Public health finance: a conceptual framework. *J Public Health Manag Pract.* 10(5):377–382.

OECD (2015). *FOCUS on Health Spending*, OECD Health Statistics 2015. Paris: OECD.

OECD (2017). *OECD Health Statistics*. Paris: OECD (http://stats.oecd.org/index.aspx?DataSetCode=HEALTH_STAT#, accessed 22 May 2018).

OECD, Eurostat and WHO (2011). *A system of health accounts*. 2011 edition. Paris: OECD. (http://www.who.int/nha/sha_revision/sha_2011_final1.pdf, accessed 28 January 2013).

Olejz M, A Juul Nielsen, Rudkjøbing A, H Okkels Birk, A Krasnik and C Hernández-Quevedo (2012). Denmark: Health system review. *Health Syst Transit.* 14(2):1–192.

Ostojic D, Andric R (2012). Reforms of the organization and financing of primary health care in Montenegro. In: Bartlett W, Bozikov J, Rechel B eds. *Health Reforms in South East Europe*. Houndmills: Palgrave Macmillan: 207–217.

Petrič V-K, Maresso A (2018). Slovenia. In: Rechel B et al. eds. *Organization and financing of public health services in Europe: Country reports*. Copenhagen: World Health Organization (acting as the host organization for, and secretariat of, the European Observatory on Health Systems and Policies): 49–64.

Poscia A, Silenzi A, Ricciardi W (2018). Italy. In: Rechel B et al. eds. *Organization and financing of public health services in Europe: Country reports*. Copenhagen: World Health Organization (acting as the host organization for, and secretariat of, the European Observatory on Health Systems and Policies): 49–64.

Rechel B, Bozikov J, Bartlett W (2012). Lessons from two decades of health reforms in South East Europe. In: Bartlett W, Bozikov J, Rechel B eds. *Health Reforms in South East Europe*. Houndmills: Palgrave Macmillan: 229–239.

Rechel B, Brand H, McKee M (2013). Financing public health in Europe. *Gesundheitswesen.* 75(5):e28–33.

Reeves A, Basu S, McKee M, Sandgren A, Stuckler D, Semenza J (2015). Tuberculosis control and economic recession: longitudinal study of data from 21 European countries, 1991–2012. *Bull World Health Organ.*93(6):369–379.

Ricciardi W, Favaretti C, Bellantone R (2009). A healthy lesson, Italian-style? *Ital J Pub Health.*6(4):323–329.

Roland M, Guthrie B (2016). Quality and outcomes framework: what have we learnt? *BMJ.* 354(i4060).

Sensenig AL (2007). Refining estimates of public health spending as measured in national health expenditures accounts: The United States experience. *J Pub Health Manag Pract.*13(2):103–114.

Signorelli C (2013). Ma quei dati OECD-WHO non sono reali [But those OECD-WHO data are not real]. *Igienisti* [website] 2 February 2013. (<http://www.igienistionline.it/docs/2013/03soci.pdf>, accessed 30 May 2018).

Strandberg-Larsen M, Nielsen M, Vallgård S, Krasnik A, Vrangbæk K, Mossialos E (2007). Denmark: Health system review. *Health Systems in Transition.*9(6):1–164.

Supreme Audit Office (2013). Information on the result of audit No. 145/2013/P/12/137/LKA: Realization of the regulations of the Act on the Protection of Public Health against the Effects of Tobacco Use. Warsaw: Supreme Audit Office.

The European House – Ambrosetti (2016). La spesa in prevenzione in Italia: le declinazioni regionali [Prevention spending in Italy: regional declines]. Milano: The European House.

Thomson S, Foubister T, Mossialos E (2010). Can user charges make healthcare more efficient? *BMJ.*341:c3759.

Vardavas C, Filippidis F, Agaku I, Mytaras V, Bertic M, Connolly G et al. (2012). Tobacco taxation: the importance of earmarking the revenue to health care and tobacco control. *Tob Induc Dis.*10(1):21.

Vuorenkoski L, Mladovsky P, Mossialos E (2008). Finland: Health system review. *Health Systems in Transition.*10(4):1–168.

WHO (2007a). European tobacco control report 2007. Copenhagen: WHO Regional Office for Europe.

WHO (2007b). Evaluation of Public Health Services in South-eastern Europe. Croatia. Draft National Report. Copenhagen: WHO Regional Office for Europe.

WHO (2009). Evaluation of public health services in Slovenia. Copenhagen: WHO Regional Office for Europe.

WHO (2009). Evaluation of public health services in south-eastern Europe. Copenhagen: WHO Regional Office for Europe.

WHO (2012). General statistical procedures used to construct WHO health expenditure database (<http://apps.who.int/nha/database/ResourcesPage.aspx>, accessed 28 January 2013). Geneva: World Health Organization.

Zorgbalans (2014). *De prestaties van de Nederlandse gezondheidszorg [The performance of Dutch health care]*. Bilthoven: RIVM.

Chapter 5

The public health workforce

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Introduction

There seems to be a growing consensus that the ‘wicked’ nature of public health problems, problems that are often complex and lack easy solutions, requires a well-trained and sustainable public health workforce to address them effectively. While the importance of the public health workforce is recognized, such as in the essential public health operations (EPHOs) set out by the WHO Regional Office for Europe (WHO Europe, 2018), in many countries training is variable and inconsistent, there is a lack of professional development trajectories and insufficient political commitment to improve this situation. The questions this chapter seeks to address are given in Box 5.1.

Box 5.1 *Key questions this chapter seeks to address*

- Why is it difficult to enumerate the size and scope of the public health workforce?
- Who belongs to the public health workforce?
- What are the key challenges faced by the public health workforce in Europe?
- How can the public health workforce be developed?
- What are relevant initiatives at the European level?

There are many definitions of the public health workforce. According to Tilson & Gebbie (2004), the broadly defined public health workforce includes all those engaged in work that creates the conditions within which people can be healthy. More specifically, the workforce is composed of those who work for official public health agencies at all levels of government, community-based and voluntary organizations with a health promotion focus, the public health-

related staff of hospitals and health care systems, and a range of others in private industry, government, and the voluntary sector (Tilson & Gebbie, 2004).

For the purposes of this study, the core public health workforce is defined as all those engaged in the provision of public health services who identify public health as being the primary part of their role. However, the public health workforce also includes those who contribute to public health only as part of their jobs, as well as other individuals whose work can have a positive impact on population health (Box 5.2). This wider public health workforce includes health professionals (such as midwives, community pharmacists or GPs) who may promote public health, but only as part of their jobs, and other professionals whose work can have a significant impact on population health (such as urban planners, architects, police, teachers, or journalists) (CFWI, 2014, 2015). Division of the public health workforce into the core and wider categories resonates with other tripartite classifications based on individuals' education and training background (Foldspang et al., 2014).

The epidemiological shift in the burden of disease away from communicable diseases to noncommunicable diseases (NCDs) and chronic conditions has pushed public health systems to move beyond the control of individual disease-causing agents to encompass intersectoral actions addressing the new root causes of population ill-health. Furthermore, large health inequities still exist within and between countries. This means that public health systems need to broaden their remit to include a strong focus on the prevention and control of noncommunicable diseases and on reducing health inequities. However, despite this shift in population health needs, public health systems in Europe are struggling to adapt. An assessment of public health capacity in the EU in 2013 found that countries were generally stronger in traditional fields of public health, such as communicable disease control and vaccination, and weaker in addressing the social determinants of health and health inequalities (Aluttis et al., 2014). To achieve intersectorality and deliver on health-in-all policies it will be necessary to use the untapped potential of the wider public health workforce.

Modern public health practice embraces the study and control of a wide range of health determinants; this endeavour requires many diverse skills, including medical skills but also many others (Birt & Foldspang, 2009). Erwin & Brownson (2017), for example, have stated that “the public health practitioner of the future should be equipped with capabilities, such as systems thinking and methods, communication skills, an entrepreneurial orientation, transformational ethics, and policy analysis and response”. Moreover, there is a need for public health to embrace wider disciplines such as political science, international law, climatology and ecology (Middleton, 2016).

The diversity of the public health workforce also means that it is hard to advocate for and organize this workforce as a single workforce across Europe. Given the wide-ranging contexts within which the public health workforce must function and the expressed need for the redesign of structures and public health processes (Frenk et al., 2010) there can be critical gaps in workforce development. Achieving goals to strengthen the public health workforce may require a re-conceptualization of professional training and support mechanisms as well as setting priorities in relation to competences development (Czabanowska et al., 2014; Czabanowska, 2016).

Key challenges

The contemporary and future challenges for public health put high demands on professional education, recruitment and retention of staff, and require investment in continuing education. A large number of public health graduates do not work in public health roles, and in some countries two thirds of the public health workforce do not have formal public health training (Pacchaud et al., 2013). Therefore, in training the public health workforce to meet the health needs of the population, it is also important to meet the needs of students and equip them with the skills they may need in the workplace, as well as meeting the needs of potential employers and working with them to ensure suitable career opportunities are available (Lafranconi et al., 2016). The gap between public health training and public health practice goes beyond the core public health workforce, resulting in blurred career paths and a professional identity crisis in the field.

Public health workforce capacity varies greatly across the WHO European Region and in many respects this variation reflects the wider organizational context of public health; just as the boundaries of what constitutes public health are contested, so too are the boundaries of the public health workforce. The methodological challenges in estimating the size and scope of the public health workforce are complicated by the different understandings and terminologies across Europe with regard to the role and meaning of “public health”. This makes it hard to conceptualize the public health workforce and to establish a European consensus (Aluttis et al., 2014). Such differences in terminology are evident in the different names that exist across Europe for what is recognized by the EU as the medical specialty of public health, called “hygiene and epidemiology” in the Czech Republic, “hygiene and preventive medicine” in Italy, “public health and epidemiology” in Poland and “social medicine” in Sweden (Westerling, 2009).

While the boundaries within which the public health workforce are found are not clearly defined at the international level, the same is often true at the

national level. Consequently, for many countries only crude estimates on the size of the public health workforce are available, as it cannot be clearly identified or distinguished from the health care workforce and people working in other sectors.

Box 5.2 *Who is the public health workforce?*

ASPHER's (Association of Schools of Public Health in the European Region) tripartite classification of the public health workforce includes the following categories:

1. Public health professionals

Persons:

- a. Persons with a bachelor or master degree in public health.
- b. Physicians and nurses who have specialized in public health.
- c. Others engaged in definite and long-standing public health activities at a relevant level of expertise.

Field of work: Comprehensive public health as the basis. Specialization on this basis.

2. Health professionals

Persons: Physicians, nurses, midwives, physiotherapists and others.

Field of work: Parts of more comprehensive public health strategies.

3. All other professionals

Persons: Politicians, teachers, policemen, architects and others.

Field of work: Various – policy, the classroom, the street, the architect's drawing room, etc.

Source: Foldspang et al., 2014

A formally recognized core of public health professionals is still required to safeguard the scientific and evidence-based approach to public health interventions (Sim et al., 2007), but their role could be expanded to facilitate work across silos with a wide range of professionals to coordinate complex responses to public health issues and address the social determinants of health (Ribeiro et al., 2016). In some countries, public health specialists play important roles in initiating and leading work across sectors, such as in England and Sweden. In England the role of Directors of Public Health in local authorities includes leading and championing health improvement across the local authority. It seems that in many other countries in Europe there is no clearly defined mandate for public health specialists to lead on public health, either within the health system or across sectors.

Developing the public health workforce

Lichtveld and Cioffi (2003) propose a framework for action which includes six strategic elements for public health workforce development: monitoring workforce composition, identifying competencies and developing a related curriculum, designing an integrated lifelong learning delivery system, providing individual and organizational incentives to ensure competency development, conducting evaluation and research, and assuring financial support.

A key challenge in developing the public health workforce across Europe is to professionalize its core personnel. This means developing systems for the certification and registration of core public health workers to ensure a regulatory framework is in place, as well as the development of competencies, training pathways and ongoing professional development. Currently, only a few countries in Europe have a specific certification or registration of public health professionals (see Chapter 6 Assuring the quality of public health services). In Poland, for example, there are no clear roles for public health graduates, no career paths, and no systems for accreditation or certification relevant to public health (Topór-Mądry et al., 2018). Limited options for career progression are also a problem in Germany (Plümer, 2018). This lack of clearly defined training and continuing professional development for the public health workforce is an issue across Europe and means that many people working in public health are still following the traditional public health paradigm based on infectious diseases control and environmental monitoring, rather than the new public health which encompasses broader health determinants.

It is instructive that of the nine countries covered in the accompanying volume (Rechel et al., 2018), only three (England, the Republic of Moldova and the Netherlands) have a public health workforce policy or plan. This illustrates that proper workforce planning for public health is lacking in most countries. Initially, it should be essential for countries to allocate responsibility for public health workforce planning and development. An example of how this could be done is England, where Public Health England has been charged with developing the public health workforce, including its own staff, Directors of Public Health in local authorities, and the wider public health workforce.

Developing the public health workforce also requires meeting the needs of the wider public health workforce. Improving population health in Europe requires intersectoral action and the combined efforts of people from many disciplinary backgrounds and professions (Sim et al., 2007). A key challenge is to “find ways for the diverse members of the wider workforce both to recognize that they have a public health role and to ensure they gain the competencies that will enable them to fulfil the requirements specific to their role” (Sim et al., 2007). Policies

are needed to ensure that the wider public health workforce has a defined and legitimate public health role in their job specification, allowing it explicitly to improve the health of populations in their work. For example, most often, positions of leadership in public health are held by clinicians who have followed clearly structured career pathways. In contrast, the workforce they lead often includes people who have come to public health through a myriad of pathways, sometimes armed with specialist knowledge in some aspects of public health, but without either access to the training needed or the legal right to assume positions of leadership (Sim et al., 2007).

The core and wider public health workforce have complementary roles in improving population health. The core public health workforce can act as a catalyst to support evidence-based interventions that can be undertaken locally by competent public health practitioners and the wider workforce (Sim et al., 2007).

Clearly employers of public health workers can also play a key role in developing their workforce. This includes the provision of appropriate working conditions and salaries, and fostering career development and continuing professional development. National public health agencies are important here, but also local and regional authorities.

Professional associations can play an important role in advocating for the needs of the public health workforce at the national and European level (Allutis et al., 2013). In 2013 Luxembourg, Cyprus, and Slovakia were the only EU Member States without national associations on public health (Allutis et al., 2013).

International agencies such as the European Union (EU) and the World Health Organization (WHO) have developed functional definitions of what needs to be done under the umbrella of public health but have left it open as to who should provide these functions. This is in large part due to the diversity across Europe in how countries seek to meet the spectrum of public health needs. However, for some subspecialties of public health, European-wide training programmes have been established. These include programmes coordinated by the European Centre for Disease Prevention and Control (ECDC), such as the European Programme for Intervention Epidemiology Training (EPIET) and the Public Health Microbiology Programme.

In most countries key aspects of public health are still provided by clinicians, i.e. physicians who have specialized in public health and received postgraduate training in the field. The United Kingdom seems to be the only country in Europe where clinical training is not a prerequisite for specializing in public health (Box 5.3).

Box 5.3 *Specialist public health training in the United Kingdom*

Since 2000, public health trainees in the United Kingdom have been selected for specialized training from both medical and nonmedical backgrounds, with nonmedical graduates including statisticians, epidemiologists, economists and experts in health promotion. All trainees, whether with a medical background or not, undergo identical training, and both have to pass the same higher professional examinations to achieve membership of the Faculty of Public Health, and demonstrate that they meet clearly defined public health competencies. Once they have earned the specialized training certificate, they compete equally for the same senior posts, in academia and service public health in local government or Public Health England. Training and employment opportunities have thus been opened to both, medically and non-medically, qualified public health workers. For nonmedical professionals a new regulatory body was created (the United Kingdom Voluntary Register for Public Health) to work in parallel with the General Medical Council which regulates clinicians.

Source: Birt & Foldspang, 2009; Sim et al., 2007; Gray, 2018

The United Kingdom, Denmark and Norway were among the first countries to base education in public health on a broad curriculum (rather than a narrow medical one), covering essential public health areas and core competencies and following a multidisciplinary approach. Elsewhere, education and training for public health continue to evolve, with schools of public health in the United Kingdom and the United States sometimes serving as role models (Aluttis et al., 2014). In Switzerland, a recent study found that 69% of the public health workforce did not have a specific public health degree and that training in public health sciences was the most-reported competency needed by workers (Paccaud et al., 2013). Such training could support the multidisciplinary role needed and help to build a more cohesive public health identity and increase the visibility of public health as a profession.

In most European countries, there seems to be a contradiction between the extensive provision of public health education on the one hand and the lack of career paths and employment opportunities for public health professionals on the other. In much of Europe, career opportunities and incentives for further professional development in public health are limited.

Several countries, including France, Germany, the Republic of Moldova and Portugal, report that public health is not an attractive specialty for medical students (Chambaud & Hernández-Quevedo, 2018; Plümer, 2018; Ciobanu et al., 2018; Gomes & Barros, 2016). This is likely to be due to many factors, one being low salaries. In the Republic of Moldova salaries of public health professionals are so low that many of these professionals hold contracts

equivalent to 125% of full-time positions, so that they can make ends meet (Ciobanu et al., 2018). In Germany, changes to the Civil Service Tariff in 2006 led to a discrepancy between the pay for public health specialists and those in other clinical specialties, with much lower pay for public health, leading to subsequent recruitment problems (Plümer, 2018). In England, the move of public health services from the National Health Service (NHS) to local government in 2013 resulted in lower salaries for some newly appointed public health specialists. Previously, recruitment and retention for positions was high, but in 2017 an estimated 17% of Director of Public Health posts were vacant (Middleton & Williams, 2018). In Italy, public health positions are particularly vulnerable to budget cuts, as they are often in regional or local government authorities (Poscia et al., 2018).

Without the ability to attract a sufficient number of young people to the profession, the public health workforce is rapidly ageing as in the case of Portugal where 89.5% of public health doctors were over 50 years of age in 2011 and therefore all expected to retire by 2027 (Gomes & Barros, 2016). In the Republic of Moldova, problems with recruitment have been aggravated by the outmigration of public health workers, leading overall to the rapid ageing of the public health workforce (Ciobanu et al., 2018). This illustrates the role that international migration can play in the supply of public health workers in Europe. Within the EU, the recognition of public health medicine as a medical specialty in 2008 strengthened its position and raised its profile relative to other specialties (Westerling, 2009), but the associated mutual recognition of qualifications also increased the likelihood of migration of public health specialists across the EU.

European policy responses

EU

Although public health as a medical specialty is now recognized by the EU, the broader public health profession, being multidisciplinary and often dependent on national contexts, is not clearly defined across the EU, hindering the recognition of qualifications, professional mobility and the integration of public health professionals into the single market (Czabanowska et al., 2015). A survey carried out by the Association of the Schools of Public Health in the European Region (ASPHER) identified the need for developing clear-cut professional qualification models which would allow for the certification and licensing of the profession across the EU (Bjegovic-Mikanovic et al., 2013).

The EU has set out a system for the recognition of professional qualifications in Directive 2005/36/EC, amended by Directive 2013/55/EU (European

Parliament, 2005, 2013). Depending on the national legislation and the profession in question, the document provides three different legal approaches to the recognition of a professional qualification. Automatic recognition is the first possible procedure, but it is restricted to a limited number of regulated professions (Foster, 2012). In this case, the host country should automatically recognize the qualification. A second approach is the mutual recognition of qualifications to practice a so-called general system profession. This procedure works on a case-by-case basis. In general, it establishes that an individual should undergo compensatory measures only when the education or the minimum required years of practice diverge drastically from the receiving country's regulation. The third approach is for individuals who establish themselves in another member state by working or providing a service on a temporary or occasional basis (Dixon, 2007; Wismar et al., 2011). The legislation might allow them to work without prior recognition from the receiving country. However, Article 7 of the Directive 2005/36/EC restricts this model, stating that if there is a considerable difference between the individual's qualification or the training required by the member state, in particular in a profession having implications for public health or safety, a prior check or compensation measures may be needed (Wismar et al., 2011).

There are several controversial aspects to Directive 2005/36/EC. Most importantly, it excludes some professionals from mutual recognition by distinguishing regulated and unregulated professionals. Moreover, insecurity around the recognition of qualifications for non-regulated professionals, especially in the health sector, can be expected to lead to lower numbers of applications (Dussault et al., 2009).

The need for more concerted action involving many actors and sectors to support the public health workforce has been widely recognized by professional associations for public health. In 2017 the EU Health Policy Platform adopted the Joint Statement on Public Health Workforce Development and Professionalisation, signed by ASPHER and many leading public health associations (ASPHER, 2017). The Joint Statement calls for consensus-building and collaborative cross-sectoral engagement of all relevant health professionals in public health matters, professionals in other relevant services and a competent and sufficient public health workforce to drive the necessary changes forward. It points to the need for developing the public health workforce by establishing communication and coordination systems, clear roles and competences, education and training, attractive career paths, continuing professional development, needs assessment, and planning and forecasting. The Joint Statement also identifies the need for strong associations of public health professionals, the development of the public health role and competences

of other professionals, the development of the public health discipline and profession, and the nurturing of strong leaders to lead the development, implementation and evaluation of public health strategies, programmes and services.

WHO

Many frameworks for assessing the capacity of public health and the training of the public health workforce have been developed, particularly in the United States and the Americas. However, the dissolution of the Soviet Union and the resulting disarray of public health services in the postcommunist countries led the WHO Regional Office for Europe to develop its own essential public health operations (EPHOs) to assist in establishing a minimum portfolio of public health services (Martín-Moreno et al., 2016). The EPHOs can be used to assess and plan stronger public health services and capacities; they centre around three main areas of service delivery: health protection, disease prevention, and health promotion, supported by enabling functions (see Chapter 2). The EPHO assessment process can help to build capacity and allows professionals to update their knowledge of contemporary public health functions, providing a basis for the development of public health training curricula (Martín-Moreno et al., 2016).

More recently, the WHO Regional Office for Europe has launched a collaborative initiative called the Coalition of Partners (WHO, 2017). This initiative aims to take collective action to strengthen essential public health services and capacities across the WHO European Region. Three joint actions have been initiated with regard to the public health workforce:

1. **A Core Competencies Framework for the Public Health Workforce in the WHO European Region:** This framework is anticipated to facilitate the standardization of the skills required of public health professionals.
2. **A Handbook for Managing Public Health Professional Credentialing and Accreditation Systems in the WHO European Region:** The handbook is hoped to serve as a reference tool for national education and health authorities, as well as for professional bodies, concerned with establishing and strengthening national credentialing and accreditation systems.
3. **A Roadmap towards Professionalization of the Public Health Workforce in the WHO European Region:** The roadmap aims to support countries in taking action to further professionalize the public health workforce, describing a variety of measures that countries can take, and identifying considerations related to the implementation of these measures.

ASPHER

The Association of Schools of Public Health in the European Region (ASPHER) has been a major advocate for the needs of the public health workforce in Europe. Its work includes the development of a European list of public health core competencies to meet contemporary challenges in population health and in health systems (Box 5.4).

Box 5.4 *ASPHER's European list of public health core competencies*

1. Methods in public health – quantitative and qualitative.
2. Population health and its social and economic determinants.
3. Population health and its material (physical, radiological, chemical and biological) and environmental determinants.
4. Health policy: economics, organizational theory and management.
5. Health promotion: health education, health protection and disease prevention.
6. Ethics.

Source: Foldspang et al., 2014; Paccaud et al., 2013

However, as noted above, job profiles need to reflect this training. This means that, beyond harmonizing the training and education of the core public health workforce across Europe, it is necessary to ensure that public health graduates can find a job on the basis of their qualifications and have the skills to fulfil their public health role.

The list of public health core competencies (Box 5.4), in conjunction with the EPHOs, can help to professionalize the public health workforce (Foldspang, 2015). To ensure sustainability it is necessary for public health to be an attractive profession for young graduates so that the best candidates want to specialize in public health. Recruiting and retaining public health workers requires the consolidation of a clear professional identity, underpinned by clear professional profiles and job descriptions (WHO Europe, 2017). In some countries this will necessitate the development or acknowledgement of public health as a profession.

Despite the enormous diversity and fragmentation of the institutional landscape for public health in Europe, there is a remarkable consistency across schools of public health as to the type and level of skills and knowledge required for professional public health training. This might be in part due to the active harmonization efforts of bodies such as ASPHER and the WHO Regional Office for Europe (Bjegovic-Mikanovic et al., 2013). However, although consistency has so far been largely achieved in EU/EEA Member States, many

of the post-Soviet countries still focus on hygiene and do not teach the full scope of public health.

The next steps include greater networking and collaboration between schools of public health to support countries in developing certification of the public health workforce and other aspects of professionalization (Otok & Foldspang, 2016; Otok et al., 2017). A Master's degree in Public Health (MPH) still constitutes a basic part of professional training and specialization in public health. In some countries there are also undergraduate training courses for public health and graduates from these courses would benefit from professionalization to fully exploit the opportunities for intersectoral work outside the health sector. There is also a need for harmonizing the training of the wider public health workforce. Public health will need to be expanded to other professions to build awareness of how they can impact on public health in both positive and negative ways. Working across disciplines is often easier in countries with smaller populations as people know each other, but there can also be capacity issues and there are countries, such as Slovenia, without a national school of public health. Building capacity therefore also needs to happen across countries. Initiatives at the European level can inform the development of tools at the national level. One example of this is the Public Health Training Academy (Box 5.5).

Box 5.5 *Public Health Training Academy*

The current systems in Europe for continuing professional development in public health are scattered and difficult to navigate. This makes it complicated for professionals within the public health workforce (with or without a public health background) to access the training they need to further professionalize and advance their career.

ASPHER aims to establish an umbrella structure that brings together high-quality training in public health by taking advantage of the capacity of its members and by centralizing training in three training centres. The ambition of this Public Health Training Academy is to address the needs for training of the public health workforce (and those wishing to join it) by providing cutting-edge short courses that allow public health professionals to advance their career.

Source: ASPHER, 2018

Conclusions

Moving forward, achieving health-in-all policies and intersectoral working will require a systemic approach, and a clear differentiation between the core and the wider public health workforce. Currently, the public health workforce in Europe is not always well defined or regulated. Many countries do not even

have a public health workforce plan, despite facing challenges in recruiting and retaining public health workers. As a first step, it will be essential that the public health workforce possesses core competencies, but there is also a need to build leadership capacity.

Box 5.6 *Key messages on the public health workforce*

- It is not possible to quantify the public health workforce in Europe.
- There is a core and a wider public health workforce; it will be essential to develop and strengthen both of these workforces.
- In several countries, there are shortages of personnel, low salaries and poor staff morale.
- Most countries in Europe do not have plans or strategies for developing their public health workforce.
- There is a need for concerted action by national and international organizations.
- This will need to include the development of core competencies and improved training and continuing professional development.
- Working conditions will need to be improved and there is a need for professional leadership.

It is clear that future initiatives must take a holistic approach to the development of the public health workforce, recognizing its heterogeneous and interdisciplinary nature. However, unless a core workforce of public health professionals is authorized, the potential of the wide public health workforce realized, and comprehensive and effective public health structures are in place, public health will continue to be weak and underfunded. Professionalization raises the profile of public health, making the public health workforce more visible to policy-makers and the population at large.

References

Aluttis CA, Chiotan C, Michelsen M, Costongs C, Brand H, on behalf of the public health capacity consortium (2013). Review of public health capacity in the EU. Luxembourg: European Commission Directorate-General for Health and Consumers.

Aluttis C, Van den Broucke S, Chiotan C, Costongs C, Michelsen K, Brand H (2014). Public health and health promotion capacity at national and regional level: a review of conceptual frameworks. *J Pub Health Res.*3(1):199.

ASPHER (2017). Joint Statement on Public Health Workforce Development and Professionalization. ASPHER: Brussels.

(<http://euronetmrph.org/wp-content/uploads/2017/03/JointStatementonPublicHealthWorkforceDevelopmentandProfessionalisation.pdf>, accessed 22 May 2018).

ASPHER (2018). ASPHER: The Association of Schools of Public Health in the European Region [website]. ASPHER: Brussels. (<https://www.aspher.org>, accessed 28 May 2018).

Birt CA, Foldspang A (2009). Public health capacity building – not only the property of the medical profession. *Eur J Pub Health*.19:232–235.

Bjegovic-Mikanovic V, Vukovic D, Otok R, Czabanowska K, Laaser U (2013). Education and training of public health professionals in the European Region: variation and convergence. *Int J Pub Health*.58(6):801–810. doi: 10.1007/s00038-012-0425-2.

Burström B, Sagan A (2018). Sweden. In Rechel B et al. eds. *Organization and financing of public health services in Europe: Country reports*. Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies: 121–131.

CFWI (Centre for Workforce Intelligence) (2014). *Mapping the core public health workforce. Final Report*. London: Centre for Workforce Intelligence. (<https://www.gov.uk/government/publications/mapping-the-core-public-health-workforce>, accessed 14 May 2018)

CFWI (Centre for Workforce Intelligence) (2015). *Understanding the wider public health workforce in England*. London: Centre for Workforce Intelligence. (<https://www.gov.uk/government/publications/understanding-the-wider-public-health-workforce-in-england> (Accessed 15 May 2018).

Chambaud L, Hernández-Quevedo C (2018). France. In Rechel B et al. eds. *Organization and financing of public health services in Europe: Country reports*. Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies: 23–34.

Ciobanu A, Habicht J, Serbulenco A, Gheorghita S (2018). Republic of Moldova. In Rechel B et al. eds. *Organization and financing of public health services in Europe: Country reports*. Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies: 65–78.

Czabanowska K, Rethmeier KA, Lueddeke G, Smith T, Malho A, Otok R, Stankunas M (2014). Public health in the 21st century: Working differently means leading and learning differently (A qualitative study based on interviews with European public health leaders). *Eur J Pub Health*.24(6):1047–1052.

Czabanowska K, Laaser U, Stjernberg L (2015). Shaping and authorising a public health profession. *SEEJPH*.2(1):20151201.

Czabanowska K (2016). Public health competencies: prioritization and leadership. *Eur J Pub Health*.26(5):734–735.

Den Exter A, Hervey T (2012). *European Union Health Law: Treaties and Legislation*. Antwerpen: Haklu.

Dixon M (2007). *International Law*. New York: Oxford University Press.

DREES (2015). *Les dépenses de santé en 2014. Résultats des comptes de la santé* (September 2015). Paris: DREES.

Dussault G, Frontera I, Cabral J (2009). *Migration of health personnel in the WHO European Region*. Lisbon: World Health Organization.

Erwin PC, Brownson RC (2017). The Public Health Practitioner of the Future. *Am J Public Health*.107(8):1227–1232.

European Parliament, Strasbourg: Directive 2005 /36/EC of the European Parliament and of the Council of September 2005: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2005:255:0022:0142:en:PDF>, accessed 22 May 2018).

European Parliament, Strasbourg: Directive 2013 /55/EU of the European Parliament and of the Council of November 2013: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:354:0132:0170:en:PDF>, accessed 22 May 2018).

Foldspang A (2015). Towards a public health profession: the roles of essential public health operations and lists of competences. Editorial. *Eur J Pub Health*.25:361–362.

Foldspang A, Otok R (2016). Competences based individual career and workforce planning in public health *Eurohealth*.22(4):21–26.

Foldspang A, Otok R, Czabanowska K, Bjegovic-Mikanovic V (2014). *Developing the Public Health Workforce in Europe: The European Public Health Reference Framework (EPHRF): It's council and online repository*. Brussels: ASPHER.

Foster N (2012). *EU Treaties & Legislation*. Oxford: Oxford University Press.

Frenk J, Chen L, Bhutta ZA, Cohen J et al. (2010). Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. *Lancet*.376(9756):1923–1958.

Gomes B, Barros H (2016). Public health in Portugal: Demography and organization at the crossroads. *Eurohealth*.22(4):30–32.

Gray S (2018). Developing the public health workforce: training and recognizing specialists in public health from backgrounds other than medicine: experience in the UK. *Pub Health Rev*. In press.

Lafranconi A, Rieger K, Ivankovic D, Vasiliu A, Cianci F, Czabanowska K (2016). Addressing gaps and needs in public health leadership: Academic courses in the European Region. *Eurohealth*.22(4):10–13.

Lichtveld MY, Cioffi JP (2003). Public health workforce development: Progress, challenges, and opportunities. *J Public Health Manag Pract*.9(6):443–450.

Martín-Moreno JM, Harris M, Jakubowski E, Kluge H (2016). Defining and Assessing Public Health Functions: A Global Analysis. *Annu Rev Pub Health*.37:335–355.

Middleton J, Williams G (2018). England. In: Rechel B et al. eds. *Organization and financing of public health services in Europe: Country reports*. Copenhagen: World Health Organization (acting as the host organization for, and secretariat of, the European Observatory on Health Systems and Policies): 5–22.

Otok R, Czabanowska K & Müller-Nordhorn (2016). Balancing priorities and focusing efforts: ASPHER's commitment and future vision. *Eurohealth*: 22(4):2–4. (http://www.euro.who.int/__data/assets/pdf_file/0010/325945/Eurohealth-V22-N4-2016.pdf, accessed 15 June 2018).

Otok R, Foldspang A (2016). Main competences and skills to perform Essential Public Health Operations, offered by Schools of Public Health in four European countries: a short pilot report. *Int J Public Health*.61:633–9

Otok R, Czabanowska K, Foldspang (2017). Public health educational comprehensiveness: The strategic rationale in establishing networks among schools of public health. *Scand J Pub Health*.45(7):720–722.

Paccaud F, Weihofen A, Frank M (2013). Public Health Workforce in Switzerland: are public health workers lacking? *Int J Public Health*.58:799–800.

Plümer KD (2018). Germany. In: Rechel B et al. eds. *Organization and financing of public health services in Europe: Country reports*. Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies: 35–48.

Poscia A, Silenzi A, Ricciardi W (2018). Italy. In: Rechel B et al. eds. *Organization and financing of public health services in Europe: Country reports*. Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies: 49–64.

Rechel B, Maresso A, Sagan A, Hernández-Quevedo C, Williams G, Richardson E et al. eds. (2018). *Organization and financing of public health services in*

Europe: Country reports. Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies.

Ribeiro S, Lafranconi A, Natsis Y, Rieger K, Scaioli G (2016). Public health needs to stand on its own – a viewpoint from early career professionals. *Eurohealth*.22(4):27–29.

Sellers K, Leider JP, Harper E et al. (2015). The Public Health Workforce Interests and Needs Survey: The first national survey of State Health Agency Employees. *J Pub Health Manag Pract*.21(Suppl 6):S13–S27.

Sim F, Lock K, McKee M (2007). Maximizing the contribution of the public health workforce: the English experience. *Bull World Health Organ*.85(12):935–940.

Tilson H, Gebbie KM (2004). The public health workforce. *Annu Rev Pub Health*.25:341–356.

Topór-Mądry R, Balwicki Ł, Kowalska-Bobko I, Włodarczyk CW (2018). Poland. In: Rechel B et al. eds. *Organization and financing of public health services in Europe: Country reports*. Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies: 93–106.

Westerling R (2009). The harmonization of the medical specialty in Public Health in the EU countries – a challenge for the profession. *Eur J Pub Health*.19:230–232.

WHO (2017). *Coalition of Partners to Strengthen Public Health Capacities and Services in the European Region*. Copenhagen: WHO Regional Office for Europe. (<http://www.euro.who.int/en/health-topics/Health-systems/public-health-services/coalition-of-partners>, accessed 3 May 2018).

Wismar M, Glinos IA, Maier CB, Dussault G, Palm W, Bramner J, Figueras J (2011). *Health professional mobility and health systems: Evidence from 17 European countries*. Copenhagen: WHO Regional Office for Europe on behalf of the European Observatory on Health Systems and Policies: 1–4.

Chapter 6

Assuring the quality of public health services

Gemma Williams, Ellen Nolte

Introduction

Countries in Europe and elsewhere have recognized that ensuring health care that is of high quality is an important component of high-performing health systems. However, the nature, scope and breadth of strategies used to assure quality vary (Legido-Quigley, 2008a; European Commission, 2016). This diversity reflects, in part, different historical traditions and regulatory approaches in individual countries. Ensuring quality involves a range of regulatory mechanisms and strategies. These include: the approval of pharmaceuticals and devices; training of professionals; registration, licensing and certification of health care providers; patient safety; the use of clinical guidelines and quality standards for standardization of practice; and the use of quality indicators, reports on performance and national audit studies for health system monitoring and evaluation (Legido-Quigley, 2008b). Some of these will always be subject to legislation (including European law), such as product safety. However, there are other approaches that can be used in certain areas, such as self-regulation, the use of economic approaches such as financial incentives or imposing sanctions to encourage behaviour change of providers, sometimes involving autonomous or semi-autonomous regulatory bodies (Braithwaite et al., 2005). The applicability of these policy instruments will be influenced by the wider regulatory and cultural context within which a country's health system sits and, more broadly, the health system's design (Schweppenstedde et al., 2014).

While systematic approaches to ensure and enhance the quality of health care have been implemented widely in many settings, the application of similar principles and processes to public health services has lagged behind. Explicit

frameworks for ensuring quality of public health services have been developed in the United States, but are still lacking in the majority of European countries (Honoré et al., 2011; McLees et al., 2015; Kelley & Hurst, 2006; Klassen et al., 2010). This highlights the need for a better understanding of how the quality of public health services is conceptualized and addressed in Europe.

This chapter explores the state of the art of efforts to ensure the quality of public health services in Europe (Box 6.1), building on an assessment of relevant initiatives in nine countries documented in the accompanying volume (England, France, Germany, Italy, the Netherlands, Slovenia, Sweden, Poland and the Republic of Moldova) (Rechel et al., 2018). We begin by defining quality in health and outline the principal approaches to quality assessment and assurance. We then provide an overview of the structures and processes that countries have put in place to ensure the quality of public health services, describing the key actors involved and the general processes being used, including specific instruments such as standards and guidelines, accreditation and licensing, and monitoring and evaluation procedures. We conclude with some overarching observations.

Box 6.1 *Key questions this chapter seeks to address*

- What is meant by quality in health systems?
- How can the quality of public health services be defined?
- What structures and processes have countries put into place to assure the quality of public health services?

Defining quality in health systems

The literature on quality in health care is extensive and definitions vary. There has been considerable work on the development of taxonomies and frameworks to acknowledge and capture the many domains involved in health care quality, but a commonly agreed systematic framework is still lacking (Nolte et al., 2011). The work by Avedis Donabedian has been fundamental in shaping our current understanding of quality in health care (Donabedian, 1980). His definition has at its core the performance of the individual practitioner in their interaction with the patient, distinguishing technical and interpersonal performance. The so-called goodness of technical performance is judged in comparison with best practice or the expected ability to achieve improvements in health status in the light of current knowledge and health care technology, while interpersonal performance relates to the social and psychological interaction between a patient and the practitioner (Donabedian, 1988). Subsequent work has expanded on these elements, with a widely used definition by the US Institute of Medicine defining quality as “the degree to which health services for individuals and

populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge” (Lohr, 1990).

Donabedian further proposed that the quality of health care can be assessed by evaluating its structure, processes and outcomes, as “good structure increases the likelihood of good process, and good process increases the likelihood of good outcome” (Donabedian, 1988). This approach has subsequently been used to guide the development of frameworks that address all aspects of quality, such as those proposed by the Council of Europe (1997) and the US Institute of Medicine (2001). These frameworks distinguish a range of domains, or dimensions, of quality of care, which have been extensively reviewed elsewhere (Legido-Quigley, 2008b; Nolte et al., 2011). In brief, the most common domains of quality in health care that have been described include:

- **Effectiveness:** the extent to which a service achieves the desired result(s) or outcome(s) at the patient, population or organizational level;
- **Efficiency:** the relationship between a specific product (output) of the health system and the resources (inputs) used to create the product;
- **Access:** the extent to which services are available and accessible in a timely manner;
- **Patient focus or responsiveness:** the extent to which the planning and delivery of services involves clients, provides them with information to support their decision-making, and is positive, acceptable and responsive to their needs and expectations, and respectful of privacy, confidentiality and differences;
- **Safety:** the extent to which health care processes avoid, prevent and ameliorate adverse outcomes or injuries that stem from the processes of health care itself;
- **Equity:** the extent to which the distribution of health care and its benefits among a population are fair; it implies that, in some circumstances, some individuals will receive more care than others to reflect differences in their ability to benefit or in their particular needs.

Quality dimensions such as those described above provide the basis for the development of quality indicators to measure and compare quality across providers, sectors and systems. Some authors refer to performance indicators to denote a similar concept, but quality and performance are not necessarily identical. The most common definition of quality used in the literature on quality indicators is the above-mentioned one proposed by the then Institute of Medicine (now National Academy of Medicine) (Lohr, 1990), whereas performance is generally understood as a broader, multidimensional concept

that also includes dimensions of equity and efficiency (Girard & Minvielle, 2002). However, distinctions are not clear-cut as dimensions overlap and frequently the notions of quality and performance are used interchangeably.

A 2016 report by the European Commission Expert Group on Health Systems Performance Assessment provides an overview of the range of strategies and indicators that have been implemented across Europe to assess the quality of care (European Commission, 2016). However, while much progress has been made to systematically assess and improve quality, existing strategies and frameworks tend to focus on clinical care provided to individual patients, typically in hospital settings, although recent efforts in some countries increasingly capture quality in primary care and long-term care (Schweppenstedde, et al., 2014; OECD/EU, 2016). In contrast, strategies explicitly focusing on the quality of public health services appear to be less developed. Existing frameworks tend to incorporate selected indicators of disease prevention that are commonly considered to be the remit of public health more broadly, such as (cancer) screening and vaccination, along with measures of the prevalence of selected health risk factors (e.g. tobacco and alcohol use) (Rechel et al., 2016; Nolte, 2010). Yet, measurement of these indicators only provides limited insights into the performance of public health services.

In the US, the previous lack of a comprehensive perspective on the quality of public health services has been invoked to explain a range of deficiencies in the delivery of public health services, such as variability in the range of services provided, limited implementation of evidence-based strategies, lack of a skilled workforce, unsustainable financing and lack of available and reliable data (Honoré et al., 2011). This has prompted efforts to improve quality in public health systematically, including the development of a consensus on public health quality and associated aims by the Public Health Quality Forum (2008). This consensus builds on the Institute of Medicine definition of quality in health care and defines quality in public health as “the degree to which policies, programs, services, and research for the population increase desired health outcomes and conditions in which the population can be healthy” (Public Health Quality Forum, 2008).

Similar to common approaches taken in health care, the Public Health Quality Forum has defined a number of key characteristics, or dimensions, to enable assessment of quality in public health, and promote consistency with implementing quality improvement initiatives (Public Health Quality Forum, 2008). Accordingly, high-quality public health practices should be (Public Health Quality Forum, 2008):

- **Population-centred:** protecting and promoting healthy conditions and health for the entire population;

- **Equitable:** working to achieve health equity (encompassing health and the social determinants of health);
- **Proactive:** formulating policies and sustainable practices in a timely manner, while mobilizing rapidly to address new and emerging threats and vulnerabilities;
- **Health promoting:** ensuring policies and strategies that advance safe practices by providers and the population and that increase the probability of positive health behaviour and outcomes;
- **Risk-reducing:** diminishing adverse environmental and social events by implementing policies and strategies to reduce the probability of preventable injuries and illnesses or negative outcomes;
- **Vigilant:** intensifying practices and enacting policies to support enhancements to surveillance activities (technology, standardization, systems thinking/modelling);
- **Transparent:** ensuring openness in the delivery of services and practices, with particular emphasis on valid, reliable, accessible, timely, and meaningful data that are readily available to stakeholders, including the public;
- **Effective:** justifying investments by using evidence, science, and best practices to achieve optimal results in areas of greatest need;
- **Efficient:** understanding costs and benefits of public health interventions, to facilitate the optimal use of resources to achieve desired outcomes.

This framework is seen to provide a range of benefits, including scope for designing quality improvement processes, evaluating existing and developing new public health programmes, stimulating research and teaching on the implementation of quality in daily public health practice, and bridging health care and public health services in an effort to enhance quality across the health system, including the development of indicators (Honoré et al., 2011). Similar explicit frameworks for assessing the quality of public health services have not yet been developed in Europe, although a small number of countries have developed reporting systems that assess and benchmark progress on broad indicators of population health as a means to inform improvement efforts in public health more widely.

Strategies to promote and assure the quality of public health services in Europe

This section draws on evidence from detailed assessments of approaches taken in nine European countries, which are documented in the accompanying volume

(Rechel et al., 2018), complemented by evidence derived from a literature search of policy and strategy documents and quality standards and guidelines from key international and national public health actors.

Key actors overseeing quality assurance in public health

Various international and national organizations are involved in quality assurance in public health. At the European level, the WHO Regional Office for Europe, the European Union (EU), the European Centre for Disease Prevention and Control (ECDC) and the OECD play an important role in developing quality and outcome indicators and guidelines in areas including infectious disease prevention and control, laboratory services, immunization programmes and cancer screening. Furthermore, the International Organization for Standardization (ISO) has developed a number of quality standards for laboratories that have been adopted by all European countries.

Table 6.1 provides an overview of key actors at national and subnational levels that are directly or indirectly involved in quality assurance of public health services in selected European countries. The range of actors and their competencies for supervision and enforcement of quality measures varies across countries, with some (England, the Republic of Moldova and Slovenia) having centralized functions at the national level, while others (Italy, France, Germany, the Netherlands, Poland and Sweden) have delegated relevant tasks to subnational or regional authorities and institutions.

In England, Public Health England is responsible for assuring quality at the national and regional level to ensure the capacity and capability of systems to protect and improve the health of the public. Public health service providers delivering care to individuals that has been commissioned by Public Health England or local authorities are required to register with the Care Quality Commission, the independent regulator of health and social care in England (CQC, 2014). Public Health England shares information with the Care Quality Commission about the service quality of providers. Ultimate responsibility for quality of care rests with public health providers, although local authorities are responsible for ensuring appropriate quality governance systems are in place in the public health services they commission (Public Health England, 2015). Those working for local authorities are directly accountable to the elected council, with one councillor usually taking lead responsibility for oversight, and are subject to “management by targets” for meeting predefined local health priorities. The performance of providers of public health services is similarly monitored against contract standards by public health commissioners or by managers, in the case of directly managed services. Quality assurance is

Table 6.1 Key actors involved in quality assurance of public health services in nine European countries

Country and name of institution	Type of actor	Key roles and responsibilities related to quality assurance
England		
Public Health England	Executive agency of the Department of Health (national, with regional teams). Accountable to the government but with operational autonomy	To assure the capacity and capability of systems to protect and improve the public's health Responsible for the NHS Screening Programmes and National Screening Quality Assurance
Care Quality Commission	Independent regulator of health and adult social care (national)	To register, monitor, inspect and regulate providers of public health services, including drug and alcohol, school nursing, health visitor and sexual health services, to make sure they meet fundamental standards of quality and safety
National Institute for Health and Care Excellence (NICE)	Nondepartmental public body (national). Accountable to the Department of Health but with operational autonomy	To produce evidence-based guidance and quality standards for health, public health and social care to providers and commissioners, public health professionals and members of the public
France		
The Directorate of Research, Studies, Evaluation and Statistics (<i>Direction de la recherche, des études, de l'évaluation et des statistiques</i>)	Governmental, part of the Ministry of Social Affairs and Health (national)	To assess public health performance by monitoring 100 key public health objectives
High Council on Public Health (<i>Haut Conseil de la santé publique</i>)	Independent Expert Advisory Panel (national)	To evaluate national health programmes and contribute to the development, annual follow-up and multi-year evaluation of the National Health Strategy To provide public authorities with the necessary expertise to manage health risks and to design and evaluate prevention and health safety policies and strategies

Table 6.1 *cont'd*

Country and name of institution	Type of actor	Key roles and responsibilities related to quality assurance
France <i>cont'd</i>		
The French Institute for Public Health Surveillance (<i>Institut de veille sanitaire</i>)	Governmental (national and regional)	To provide decision-makers at all levels with independent evidence-based guidance and recommendations Responsible for infectious disease surveillance and monitoring the public's health To ensure the safety of products intended for human use
Regional Health Authorities (<i>Agences Régionales de Santé, ARS</i>)	Governmental (regional)	To monitor the health status of local populations, to ensure hygiene rules are respected and to oversee water and air quality
Germany		
Robert Koch Institute	Governmental, subordinate to the Federal Ministry of Health (national)	The identification, surveillance and prevention of diseases, especially infectious diseases The monitoring and analysis of long-term public health trends in Germany Epidemiological and medical analyses and evaluation of highly pathogenic, highly contagious diseases
Local public health offices (<i>Gesundheitsämter</i>) (~350)	Governmental (local)	Tasks are defined by the relevant state legislation but core tasks include: <ul style="list-style-type: none"> ● health protection ● prevention, social care, health education ● health management, quality assurance, communication
Italy		
Ministry of Health	Governmental (national)	To monitor the provision of care through the national monitoring system of the essential levels of care (LEA Grid), and the outcomes of care at hospital and local authority level

Regional Health Departments; Local Health Authorities (ASLs)	Governmental (regional and local)	To implement public health policies at the regional and local levels respectively Regional departments define the criteria for authorizing and accrediting health care providers, monitor the quality of care according to regional quality criteria and manage ASLs and public hospitals Each ASL monitors and evaluates medical and nonmedical staff
National Institute of Health (<i>Istituto Superiore di Sanità</i>)	Public agency, leading technical-scientific body under the supervision of the Ministry of Health (national)	To undertake scientific research, surveillance and monitoring and dissemination of information and training in public health
National Agency for Regional Health Services (<i>Agenzia Nazionale per i servizi sanitari regionali</i> , AGENAS)	Public agency and technical-scientific body under the supervision of the Ministry of Health (regional)	To support national and regional health planning through monitoring, evaluation, training and research activities
National Observatory on Health Status in the Italian Regions (<i>Osservatorio Nazionale sulla Salute nelle Regioni Italiane</i>)	Independent scientific institution (regional)	To undertake annual systematic reporting on population health and health care and to monitor the health status in Italian regions through specific indicators To publish the <i>Osservasalute</i> , a national report on health system performance To present policy-makers with a set of indicators, to inform decision-making processes
The Netherlands		
The National Institute for Public Health and the Environment (<i>Rijksinstituut voor Volksgezondheid en Milieu, RIVM</i>)	Independent (legally enshrined) scientific research and advisory agency under the jurisdiction of the Minister of Health (national)	To monitor the performance and quality of immunization programmes
Health Care Inspectorate	Independent supervisor of Dutch health care. Part of the Ministry of Health, Welfare and Sport (national)	To monitor the quality of health services, prevention measures and medical products Supervision of the implementation of the Public Health Act

Table 6.1 *cont'd*

Country and name of institution	Type of actor	Key roles and responsibilities related to quality assurance
The Netherlands <i>cont'd</i>		
The Health Council (<i>Gezondheidsraad</i>)	Independent scientific advisory body (national)	To advise the government on a wide range of health issues including public health (e.g. population screening programmes, assessing guidelines for infectious diseases) and the safety and effectiveness of health care interventions
Municipalities	Governmental (local)	To plan and monitor public health activities at the local level
Poland		
Ministry of Health	Governmental (national)	Supervision of health care providers and screening programmes
State Sanitary Inspectorate	Governmental (national, regional and local)	To protect the population from infectious and occupational diseases through monitoring of: environmental hygiene, occupational health in the workplace, radiation hygiene, healthy food and nutrition To supervise adherence to sanitary regulations by health care providers and the implementation of measures for the prevention of nosocomial infections To enforce public health regulations locally
National Institute for Public Health-National Institute of Hygiene (NIPH-NIH)	Governmental public health research institute (national)	To protect the health of the population through research and training To monitor the public's health, biological, chemical and physical risk factors in food, water and air, as well as diseases and infections To supervise sanitary-epidemiological stations through regular inspections of their activities and laboratories

The Republic of Moldova	
Ministry of Health	Governmental (national) Surveillance of population health, priority-setting, and the development of public health policy, legislation and regulations on the organization and provision of public health services Development, monitoring and evaluation of national programmes on the prevention and control of diseases To conduct the planning, monitoring and evaluation of public health services together with the National Centre of Public Health To monitor public health To develop national guidelines and provide methodological support to public health services on health prevention, protection, promotion and surveillance To conduct research in the field of public health Rayon and municipal centres of public health are responsible for the monitoring and evaluation of national public health programmes at the local level
National Centre of Public Health	Governmental, subordinate to the Ministry of Health (national) To monitor public health To develop national guidelines and provide methodological support to public health services on health prevention, protection, promotion and surveillance To conduct research in the field of public health
Rayon and municipal centres of public health	Governmental (regional and local) Rayon and municipal centres of public health are responsible for the monitoring and evaluation of national public health programmes at the local level
Slovenia	
Public Health Directorate of the Ministry of Health	Governmental (national) To monitor public health and develop and coordinate implementation of public health policies
Health Inspectorate of the Republic of Slovenia	Governmental agency within the Ministry of Health (national, with regional units) To supervise sanitation, hygiene and the environmental protection of the public, and monitor infectious diseases and environmental health
National Institute of Public Health	Governmental (national) To assess population health, health care, and health system resources and performance To produce and publish official statistics on health Surveillance of communicable diseases, vaccination programmes and the stockpiling and distribution of vaccines across the country To coordinate, monitor, assess, manage and provide health promotion, prevention and screening programmes, excluding for breast and cervical cancer

Table 6.1 *contd*

Country and name of institution	Type of actor	Key roles and responsibilities related to quality assurance
Sweden		
National Board of Health and Welfare (<i>Socialstyrelsen</i>)	A governmental agency under the Ministry of Health and Social Affairs (national)	<p>To develop national indicators for quality measurement in health and social care in collaboration with the Swedish Association of Local Authorities and Regions</p> <p>To maintain health data registers and official statistics and publish Open Comparisons of health care and public health performance</p> <p>To monitor and evaluate the effects of reforms and other political decisions on health and social care</p>
Public Health Agency (<i>Folkhälsomyndigheten</i>)	Expert authority that works on instruction from the Ministry of Health and Social Affairs (national)	<p>To monitor the health of the population and the occurrence of infectious diseases</p> <p>To disseminate and publicly report scientifically based knowledge on public health</p> <p>To monitor how municipalities and county councils organize their public health initiatives</p> <p>To support quality improvement at laboratories</p>
Swedish Association of Local Authorities and Regions (SALAR)	Employer and representative association for municipalities, county councils and regions (regional and local)	<p>To develop national indicators for quality measurement in health and social care and publish Open Comparisons of performance in collaboration with the National Board of Health and Welfare</p>
County councils and municipalities	Governmental (regional and local)	Monitoring public health and the health of the population at the regional and local level

supported by the National Institute for Health and Care Excellence (NICE), which is responsible for the development of quality standards and guidelines for public health services and interventions (NICE, 2014). Priority topic areas for the development of standards and guidelines are identified in consultation with NHS England (the national public body leading the NHS in England), the Department of Health and Public Health England.

In the Republic of Moldova and Slovenia, both small countries, the quality of public health services is overseen centrally, in the Republic of Moldova by the Ministry of Health and the National Centre of Public Health, and in Slovenia by the Health Inspectorate of the Ministry of Health.

In larger countries, with regional administrative tiers, responsibility for quality is shared. For example, in Italy the Ministry of Health is responsible for monitoring the provision of the “essential levels of care” at the regional level through the national monitoring system of the essential levels of care (LEA Grid). Regional health departments are responsible for planning, monitoring and evaluating the quality of care and authorizing and accrediting health care providers. Monitoring of public health services is supported at the national level by the National Centre for Disease Prevention and Control and at the regional level by the independent National Observatory on Health Status in the Italian Regions.

In France, public health performance is primarily assessed by the Directorate of Research, Studies, Evaluation and Statistics within the Ministry of Social Affairs and Health. Other national institutions involved in different aspects of quality assurance include the High Council on Public Health which is responsible for monitoring health programmes and the French Institute for Public Health Surveillance which is responsible for infectious disease surveillance and producing evidence-based guidance and recommendations. At the regional level, regional health authorities (ARSs) are also involved in assessing the quality of public health services.

In Poland, the State Sanitary Inspection service supervised by the Ministry of Health has branches at the regional (*voivodeship*) and county (*powiat*) levels. The Inspectorate is responsible for supervising adherence to sanitary regulations by health care providers and monitoring environmental hygiene, occupational health, radiation hygiene, healthy food and nutrition at all levels and enforcing public health regulations at the local level. At the national level, the Department of Health Policy within the Ministry of Health is responsible for monitoring screening programmes, while the National Institute for Public Health-National Institute of Hygiene (NIPH-NIH) monitors infectious diseases and hygiene standards. The monitoring of the quality of public health services is undertaken

by local and national consultants for public health (European Observatory on Health Systems and Policies, 2017c).

In the Netherlands, the Health Care Inspectorate is the independent supervisor of Dutch health care; it is responsible for the enforcement of statutory regulations on public health (European Observatory on Health Systems and Policies, 2017b). In addition, the National Institute for Public Health and the Environment (RIVM) is a governmental institution responsible for the surveillance and control of infectious diseases, monitoring the national immunization programme and advising the government on public health and environmental issues. The Health Council, an independent advisory body, also advises the government on key developments in public health and is occasionally tasked with developing, updating or testing public health guidelines. At the local level, municipalities are also assigned an important role in assuring quality in public health. The Public Health Act requires municipalities to develop local public health plans every four years, outlining their objectives and activities in public health, which have to take account of the priorities of the national government.

In Sweden, responsibility for quality assurance and the monitoring of public health lies at the national level with the Public Health Agency and at the regional level with county councils. The Public Health Agency is also responsible for monitoring infectious diseases and the public reporting of facts and knowledge on public health. The development of national indicators for quality measurement in health and social care, including public health, and the publication of open comparison reports on performance in public health is undertaken by the National Board of Health and Welfare in collaboration with the Swedish Association of Local Authorities. The National Board of Health and Welfare is also responsible for the maintenance of health data registers and official statistics.

In Germany, the Robert Koch Institute is the federal institute responsible for surveillance of infectious diseases, monitoring long-term public health trends and producing evidence-based recommendations on public health issues, including childhood vaccinations and hygiene standards in hospitals. It hosts several scientific advisory groups, including the secretariat of the Standing Committee on Vaccination (which develops national recommendations on the use of licensed vaccines) and the Commission for Hospital Hygiene and Infection Prevention (which has a mandate to develop national recommendations for the prevention of health care-associated infections). However, in general, assuring the quality of public health services is the responsibility of local public health offices and public health services provided by the federal states or local governments. Some federal states have also created local committees known as

“health conferences” which agree on public health targets to improve prevention measures (European Observatory on Health Systems and Policies, 2017a).

The use of standards and guidelines

Standards and guidelines can contribute to safeguarding quality in health care and supporting the implementation of health policies. The US Institute of Medicine has defined standards as “authoritative statements of 1) minimum levels of acceptable performance or results, 2) excellent levels of performance or results, or 3) the range of acceptable performance or results” (Lohr, 1990). Standards may define mandatory minimum criteria of quality and safety that must be met, as well as optimal, achievable criteria for continuous quality improvement; however, understandings of what constitutes standards in health (care) and the legal basis for enforcing them vary across countries (Schweppenstedde et al., 2014). Conversely, guidelines in health are commonly understood as evidence-based recommendations to inform and steer decisions and criteria for the delivery of appropriate and quality services for people with particular health conditions, care needs or specific population groups. Relating to public health specifically, in England, NICE has defined guidelines as “recommendations on local interventions that can help prevent disease or improve health” (NICE, 2014). Public health guidelines can focus on specific topics (e.g. obesity), populations (e.g. ethnic minority groups) or settings (e.g. schools) (Box 6.2) (NICE, 2014).

A range of international actors are involved in developing quality standards and guidelines in the area of public health. These cover infrastructural components, such as the quality of laboratory services, with relevant quality standards set by the ISO that include certification against international management system standards (ISO 9001) and the accreditation of technical competence (ISO/IEC 17025) so as to ensure the production of accurate and reliable measurements (ISO, 2017).

European institutions have issued guidance on the prevention or early detection of selected health conditions. Examples include the recommendation by the EU’s European Council in 2003 on cancer screening, which specified the principles of best practice in the early detection of cancer (female breast, colorectal and cervical) (European Council, 2003; Puthaar et al., 2006; Arbyn et al., 2010; Segnan et al., 2010; Von Karsa et al., 2008). A recent assessment of the implementation of the Council recommendations was positive (IARC, 2017).

In the area of infectious disease prevention and control, the ECDC regularly convenes scientific panels at the request of EU/EEA member states to produce guidelines and recommendations on current and emerging infectious disease

Box 6.2 *NICE Quality Standard “Obesity in adults: prevention and lifestyle weight management programmes”*

The NICE Quality Standard “Obesity in adults: prevention and lifestyle weight management programmes” addresses interventions that aim to prevent adults (aged 18 years and over) from becoming overweight or obese and the provision of lifestyle weight management programmes for adults who are overweight or obese. It includes strategies to increase physical activity and promote a healthy diet in the local population and describes high-quality care in priority areas for improvement. It sets out eight quality statements:

1. Adults using vending machines in local authority and NHS venues can buy healthy food and drink options.

Quality measure structure: Evidence that local authorities and NHS organizations provide, or make contractual arrangements for the provision of, healthy food and drink options in any vending machines in their venues.

Quality measure process: Proportion of local authority and NHS venues with vending machines that contain healthy food and drink options.

2. Adults see details of nutritional information on menus at local authority and NHS venues.

Quality measure structure: evidence that local authorities and NHS organizations ensure that information on the nutritional content of meals is included on menus at venues.

3. Adults see healthy food and drink choices displayed prominently in local authority and NHS venues.

Quality measure structure: Evidence that local authority and NHS venues make arrangements to display healthy food and drink options in prominent positions.

Quality measure outcome: Sales of healthy food and drink options.

4. Adults have access to a publicly available, up-to-date list of local lifestyle weight management programmes.

Quality measure structure: Evidence that an up-to-date list of local lifestyle weight management programmes for adults is publicly available.

Quality measure outcome: Number of self-referrals of overweight or obese adults to locally commissioned lifestyle weight management programmes.

5. Adults can access data on attendance, outcomes and views of participants and staff from locally commissioned lifestyle weight management programmes.

Quality measure structure:

- a) Evidence that commissioners and providers of lifestyle weight management programmes jointly agree the key performance indicators to be collected for monitoring and evaluation.

b) Evidence that commissioners and providers of lifestyle weight management programmes have used data from monitoring and evaluation to amend and improve programmes.

Quality measure process:

a) Proportion of adults recruited to a locally commissioned lifestyle weight management programme who have information on attendance, outcomes and views of participants and staff collected at recruitment and completion.

b) Proportion of adults who complete a lifestyle weight management programme who have data on outcomes collected 6 months after completion of the programme.

6. Adults identified as being overweight or obese are given information about local lifestyle weight management programmes.

Quality measure structure: Evidence of local arrangements to give adults who are identified as being overweight or obese information about local lifestyle weight management programmes.

Quality measure process: Proportion of adults identified as being overweight or obese who are given information about local lifestyle weight management programmes.

7. Adults identified as overweight or obese with comorbidities are offered a referral to a lifestyle weight management programme.

Quality measure structure: Evidence of local arrangements to ensure that adults who are identified as overweight or obese with comorbidities are offered a referral to a lifestyle weight management programme.

Quality measure process: Proportion of adults who are identified as overweight or obese with comorbidities who are referred to a lifestyle weight management programme.

Quality measure outcome:

a) Number of adults who are identified as overweight or obese with comorbidities enrolling in lifestyle weight management services.

b) Obesity prevalence among adults with comorbidities.

c) Obesity-related comorbidities.

8. Adults about to complete a lifestyle weight management programme agree a plan to prevent weight regain.

Quality measure structure: Evidence of local arrangements to ensure that adults about to complete a lifestyle weight management programme agree a plan to prevent weight regain.

Box 6.2 *contd*

Quality measure process: Proportion of adults completing a lifestyle weight management programme who agree a plan to prevent weight regain.

Quality measure outcome:

- a) Obesity prevalence.
- b) Prevalence of obesity-related comorbidities.

Source: NICE, 2016

threats (ECDC, 2017). Guidance has been developed for HIV testing; the control of sexually transmitted infections (STIs), viral hepatitis, syphilis and rubella; and vaccinations for influenza, human papillomavirus (HPV), Diphtheria–tetanus–pertussis (DTP) and varicella. The ECDC has also developed EU Standards for Tuberculosis Care, jointly with the European Respiratory Society (Migliori, 2012).

ECDC guidance often contains recommendations for the development of national standards and the implementation of effective quality assurance systems that include monitoring through high-quality surveillance systems and internal and external quality assessment of diagnostic laboratories. At the national level, all EU/EEA countries have implemented standards, guidelines or recommendations on HIV testing and TB control, and although the nature and scope of standards varies across EU/EEA member states, all countries support the establishment of quality management systems for accredited laboratories and reporting of cases to the European Surveillance System (TESSy) (D’Ambrosio et al., 2014; Deblonde et al., 2011).

In 2017, the ECDC published a “Proposal for EU guidelines on the prudent use of antimicrobials in humans” to support national authorities in the development of high-quality systems to ensure the appropriate use of antimicrobials (ECDC, 2017). This was against the background of a conclusion by the Council of the European Union in 2016 that called on all EU member states and the European Commission to develop EU guidelines to combat antimicrobial resistance (AMR). At that time, only around half of EU countries had developed or implemented relevant action plans or strategies (Nahrgang et al., 2018), the earliest being Sweden which had already adopted a national strategy in 2005 (ECDC, 2016).

The WHO Regional Office for Europe has also been involved in developing guidelines such as the European Vaccine Action Plan 2015–2020 (WHO, 2014). The plan identifies priority areas for action, contains indicators to

measure progress in meeting regional vaccination targets and proposes a monitoring and evaluation framework (WHO, 2014). The plan is designed to guide WHO member states towards achieving a European Region free of vaccine-preventable diseases, although developing and implementing vaccination programmes remains the ultimate responsibility of national actors.

At the national level, a number of countries in Europe have or are in the process of developing guidelines to support the implementation of national public health plans and strategies. However, the nature and scope of guidelines varies, as does the degree to which these have been linked to quality standards to enable assessment of progress of the implementation of related policies. For example, The National Board of Health and Welfare in Sweden has developed National Guidelines on Preventing Disease, which cover tobacco use, hazardous alcohol use, physical inactivity and unhealthy eating habits (National Board of Health and Welfare, 2017), The German Obesity Society has developed obesity guidelines (German Obesity Society, 2015), while the Health Council of the Netherlands has developed guidelines on topics including antimicrobial resistance, diet and physical activity (Health Council of the Netherlands, 2015). However, in general these guidelines are not linked to measurable quality standards.

In contrast, NICE in England has developed a programme of work around guidelines and quality standards for public health. Public health guidance is aimed at “health professionals working in clinical and community settings, and commissioners, managers and team leaders with responsibility for health improvement in the NHS, local authorities, schools, and public, private and voluntary sectors” (NICE, 2012). By mid-2017, NICE had published 65 guidance documents pertaining to public health topics such as obesity, physical activity, behaviour change, antimicrobial stewardship, alcohol use, air pollution and health inequalities. The majority of these guidance documents are linked to measurable quality standards that are designed to promote quality improvement in the related field (NICE, 2017). Each standard contains six to eight quality statements, each describing the underlying rationale for including this statement and how to measure progress on achieving the standard (see Box 6.2 for an example). Quality standards developed by NICE are not mandatory, but are seen to provide a means for planning and delivering services “to provide the best possible care”.

Accreditation and licensing

Accreditation and licensing are mechanisms that have been developed for ensuring that providers of health care, typically in systems with private or

mixed public and private provision, meet certain standards. Thus, they have a limited role to play in public health where much provision is within the public sector. Exceptions include laboratories and other providers of technical services and training.

Accreditation refers to a formal process in which health care organizations are externally evaluated to ensure they meet predefined quality standards. Its stated aim is to encourage continuous quality improvement rather than simply maintaining minimum standards (Rooney & van Ostenberg, 1999), although evidence for its effectiveness is limited.

In contrast, licensing is a mandatory procedure designed to ensure that practitioners and health care providers meet minimum standards of structure and inputs, as well as requirements to protect public health and patient safety (Rooney & van Ostenberg, 1999). A license to practice is granted by a governmental body or authorized licensing or regulatory board for a period of time, to be renewed periodically.

One example, in the area of training, is the Agency for Accreditation of Public Health Education in Europe (APHEA). APHEA was created in 2011 by a consortium consisting of the European Public Health Association (EUPHA), the European Public Health Alliance (EPHA), the European Health Management Association (EHMA), the Association of Schools of Public Health in the European Region (ASPHER) and EuroHealthNet. It is based on the Bologna process that aims to standardize quality and standards in higher education qualifications (Otok et al., 2011). However, it has had very limited impact and by mid-2017, only nine masters programmes in public health, offered by seven higher education institutions in Europe, Australia and Canada had received or were in the process of receiving formal accreditation by APHEA (2017). Its long-term future is not guaranteed.

At the national level, accreditation of public health providers exists in all nine countries covered in the accompanying volume, but these are primarily systems for accrediting health care providers in general. In England, the majority of public health service providers, including for drug and alcohol, school nursing, health visitor and sexual health services, are required to register with the Care Quality Commission. However, small voluntary organizations that do not provide direct individual care or advice in England do not need Care Quality Commission registration and are instead monitored by local authorities.

In all countries, medicine and dentistry are regulated professions, requiring that practitioners be on a register and comply with professional standards. This is not the case for other public health workers in the countries studied, except in England where there is a voluntary register for public health professionals

from other backgrounds developed by the Faculty of Public Health (Faculty of Public Health, 2014). Health professionals, whether in public health or other specialities, are usually required to participate in continuing professional development (CPD).

Measuring the quality of public health services

Improving the quality of services can be achieved without actually measuring it, for example through the use of guidelines, as outlined above. However, measurement plays an important role in quality assurance to ensure that predefined standards are met and quality improvement, for example as a means to monitor effectiveness, protect and promote the public's health, inform decision-making, and to ensure transparency and the optimal use of resources.

There has been considerable work on the development and use of quality indicators, with a particular focus on measures for the quality of health care (Nolte, 2010; Nolte et al., 2011), although they have limited applicability to public health. These include, at the international level, the OECD Health Care Quality Indicators project (OECD, 2017), while work at the European level includes a broader set of (public) health indicators in the form of the European Core Health Indicators (ECHI) (Legido-Quigley, 2008b). Several European countries have also developed national quality assessment and reporting frameworks, although, as with European-level frameworks, these tend to be focused on quality of health care generally rather than being tailored specifically towards public health (European Commission, 2016).

Existing assessment frameworks also tend to be limited to selected process and outcome indicators of disease prevention and early detection that are commonly considered to be the remit of public health, such as (cancer) screening and vaccination (Box 6.3). In general, specific indicators on the quality of public health services are lacking or have to be inferred from broader measures of public health performance. However, caution is required when interpreting broader performance measures as high quality can increase the likelihood of good outcomes, but the two are not identical; extraneous factors ensure that high-quality public health services may not necessarily lead to good outcomes, while poor quality services may not lead to poor outcomes (Institute of Medicine, 1999). For example, uptake of vaccinations may be reduced by religious or other beliefs (e.g. the mistaken belief of a link between autism and the measles, mumps and rubella vaccine), leading to outbreaks of measles cases that are unrelated to the quality of public health services. Moreover, commonly used indicators are influenced by a range of actors (public health services, primary care services, the voluntary and community sector, industry etc.) and public health policies. Process and outcome indicators thus capture the effect of wider

Box 6.3 *Common indicators used in European and national quality assessment frameworks, including the ECHI, OECD HCQI, Public Health Outcomes Framework in England and Open Comparisons in Sweden*

Disease prevention

Proportion (%) of adults who report smoking cigarettes daily

Proportion (%) of adults who report daily practice of physical activity

Proportion (%) of adults who report eating vegetables at least once a day

Early detection

Proportion (%) of women (aged 50–69) reporting a mammography in the past 2 years

Proportion (%) of women (aged 20–69) reporting a pap smear test in the past 3 years

Proportion (%) of people (aged 50–79) reporting a colorectal cancer screening in the past 2 years

Performance measurement

Rates of hepatitis B per 100 000 population

Rates of measles per 100 000 population

Proportion of people reporting diabetes in the past 12 months

public health policies and actors, rather than specifically measuring the quality of public health services.

Most European countries have implemented some form of public health reporting that permits some, albeit limited insight, into the quality of public health services. For example, Germany has established a national health reporting system that provides data and information on the health of the population and on health care services, covering issues such as the prevalence of diseases, symptoms and risk factors, utilization of preventive and health care services, and data on infrastructure and health system financing (Federal Health Monitoring, n.d.).

The Netherlands documents trends in health care performance biannually in its “Dutch Health Care Performance Report” (RIVM, 2017). Compiled by the National Institute of Public Health and the Environment (RIVM), it uses a set of 125 indicators to assess the quality, accessibility and cost of the health system. While focusing on the quality of curative health care, it also includes indicators on disease prevention and early detection, such as immunization and cancer screening.

Sweden has also implemented a system of regular reporting on quality indicators for public health and curative health care, with a focus on regional variation and comparison. Performance indicators for public health cover broad areas,

including the overall health status of the population, social and living conditions, and lifestyle factors. Every year, certain indicators are compared across county councils and publicly reported in the so-called Open Comparisons (*Öppna Jämförelser*). Open Comparisons compare both determinants of health as well as different health outcomes, and contain information on quality, results and costs within several areas of public health that are under the responsibility of municipalities, county councils and regions. Data from the Open Comparisons are used to create regional comparison public health reports (published in 2009 and most recently 2014) that compare differences in public health outcomes between municipalities and county councils (Swedish Municipalities and County Councils, 2014). Sweden has also developed a specific monitoring system related to the government's strategy for alcohol, narcotic drugs, doping and tobacco, with some indicators available at the regional or local level.

In England, explicit outcome frameworks for curative health care (the NHS), adult social care, and public health have been established that target different responsibilities within the wider health and care system (Department of Health, 2017; Public Health England, 2017a). The Public Health Outcomes Framework (PHOF), first published in 2012, sets public health system objectives for three-year periods and is designed to measure how well public health is being improved and protected (Public Health England, 2017a). The PHOF focuses on two core outcomes: increased healthy life expectancy, and reduced differences in life expectancy and healthy life expectancy between communities, with some 60 indicators (as of August 2017) across four domains developed to assess progress in public health (Box 6.4). However, in contrast to the NHS Outcomes Framework, which is aimed to hold NHS England to account for improvements in health outcomes, PHOF is seen as a tool to enable local authorities, which have been made responsible for public health following the 2012 health and social care reform, to benchmark and compare their own outcomes with other local authorities (Public Health England, 2017a).

Public Health England is responsible for collating and publishing PHOF data according to definitions outlined in PHOF policy documents (Public Health England, 2017b). Data are regularly updated and made available online, alongside other public health data in a series of thematic health profiles that provide overviews and comparisons of public health at the local authority level (Department of Health, 2017; Public Health England, 2017a). The profiles seek to promote access to in-depth analysis of a wide range of health data to support local authorities in prioritizing and planning local health services.

A similar system of municipal health profiles has also been developed in Slovenia as part of the Health in the Municipality project run by the National Institute of Public Health (NIPH). Health in the Municipality provides an

Box 6.4 *Public Health Outcomes Framework (PHOF) in England, 2017: domains, objectives and indicators*

Domain 1: Improving the wider determinants of health

Objective: Improvements against wider factors that affect health and well-being and health inequalities.

Example indicators:

1.101i: Children in low income families (all dependent children under 20)

1.16: Utilization of outdoor space for exercise / health reasons

Domain 2: Health improvement

Objective: People are helped to live healthy lifestyles, make healthy choices and reduce health inequalities.

Example indicators:

2.12: Excess weight in adults

2.18: Admissions episodes for alcohol-related conditions – narrow definitions (Persons)

Domain 3: Health protection

Objective: the population's health is protected from major incidents and other threats, while reducing health inequalities.

Example indicators:

3.03x: Population vaccination coverage – MMR for two doses (5 years old)

3.08: Adjusted antibiotic prescribing in primary care by the NHS

Domain 4: Health care public health and preventing premature mortality

Objective: Reduced numbers of people living with preventable ill-health and people dying prematurely, while reducing the gap between communities.

Example indicators:

4.01: Infant mortality

4.03: Mortality rate from causes considered preventable (Persons)

Source: Public Health England, 2017a

overview of key health indicators in municipalities, with the overarching aim to reduce health inequalities between regions. Indicators are classified into five thematic areas: residents and the community; health risk factors; prevention; the state of health; and mortality. Data are used to create thematic maps, tables and a publication for each municipality (National Institute of Public Health, 2016). To ensure better accessibility to health data, all products are publicly available on the NIPH website, with data updated annually (National Institute of Public Health, 2016). Additionally, the national health plan 2016 to 2025

“Together for health” provides a list of indicators to measure progress in public health quality indicators (process and outcome) which are being mandatorily introduced for public health programmes financed by public resources.

In Italy, the provision of care for public health, hospitals and districts is monitored against 32 standards outlined in the LEA Grid system, with 12 standards directly assessing the provision of public health services (Box 6.5). Following the State–Regions Agreement of 23 March 2005, regions must demonstrate to a national commission established by the Ministry of Health that they have met the required standards as defined in the LEA Grid in order to receive part of their annual public funding. The system is currently being redesigned in order to assess all levels of care (prevention and public health, outpatient care, hospital care) for efficiency, clinical and organizational appropriateness, safety, perceived quality, patient experience and equity.

The use of quality and outcomes data for quality assurance and improvement in public health is less developed in other countries. For example, in France a set of 100 objectives to inform strategic planning for public health at the national and regional level was adopted in 2004. However, these indicators have not been systematically adopted at the regional level and monitoring has not been conducted since 2010. In the Republic of Moldova, the National Public Health Strategy for 2014–2020 was developed in line with the WHO European Action Plan for Strengthening Public Health Services and Capacity, establishing a set of indicators for the monitoring and evaluation of public

Box 6.5 *Standards for public health services in Italy*

In 2013, 12 of the 32 standards outlined in the LEA Grid system assessed the provision of public health services. These were:

- Vaccination coverage: mandatory vaccinations for neonates; measles, mumps and rubella; influenza among older people;
- Organization and adherence to the national screening programme (cervical, breast and colon cancer screening);
- Costs related to the protection from the health risks of living environments and workplaces;
- Performance of surveillance activities in workplaces;
- Surveillance of animal health: bovine tuberculosis; brucellosis; sheep and goat farming;
- Food safety and hygiene: surveillance of illicit drugs and contaminants in food of animal origin; surveillance of pesticide traces in vegetables and inspections in the retail sector.

Source: Poscia et al., 2018

health services. Yet, due to the lack of a monitoring and evaluation system and limited capacities at national and local levels to assess and analyse the existing data, these are currently not being used. In Poland, there are no documented national or regional mechanisms for measuring the quality of local public health programmes, unless these are explicitly specified within health programmes. Although health programmes are required to set out objectives related to equity of access and social determinants, this requirement has not yet been fully implemented. However, there are efforts to establish a system of performance measurement and the National Health Programme for 2016–2020 presents a series of aims and objectives in different areas of public health that are to be assessed against structural, process and outcome indicators.

Conclusion

Assuring, monitoring and improving the quality of public health services is central to achieving a high-performing health system that is safe, effective and responsive to the health needs of patients and the wider population. However, within Europe, systematic approaches to ensure and enhance the quality of public health services have yet to be implemented and there remains much scope for improvement. In all reviewed countries, core features of an effective quality assurance system for public health services are underdeveloped or absent. For example, although all countries have developed quality standards or guidelines for cancer screening, TB and HIV, measurable standards and guidelines to support the implementation of national public health plans or strategies for other key public health issues are lacking in a number of countries. In the future, the development of guidelines on a wider range of public health areas will be essential to support quality assurance, as is the need to ensure that all guidelines are linked to measurable quality standards designed to promote quality improvement. Furthermore, although some form of accreditation and licensing procedures are found in all reviewed countries, these relate to health care providers in general (Box 6.6).

Across Europe, the development and institutionalization of national and regional quality assessment and reporting frameworks for public health represents a major area for improvement. Although all reviewed countries have, to some extent, developed quality assessment and reporting frameworks, these tend to focus on quality of health care generally rather than being tailored specifically towards public health. Moreover, existing public health indicator frameworks focus on indicators of disease prevention and early detection, rather than on explicit measures of quality. Although these give some indication of the quality of the wider public health system, they do not specifically measure the

Box 6.6 *Key messages on quality assurance*

- Little is known about the quality of public health services in Europe.
- Core features of an effective quality assurance system for public health services are still underdeveloped or absent in most countries.
- Quality standards or guidelines are only available for selected areas of public health.
- Quality assessment and reporting frameworks for public health are underdeveloped.
- Public health indicator frameworks focus on indicators of disease prevention and early detection, rather than on explicit measures of quality.
- There is a need for structural, process and outcome indicators of quality.

quality of public health services. The development and incorporation of specific structural, process and outcome indicators of quality into national public health assessment frameworks is thus critical to help safeguard and improve the quality of public health services. Structural measures in particular are largely absent in existing performance measurement systems and should be designed to capture the financial and human resources used in public health services, licensing, certification and qualifications of staff and the accreditation, policies and procedures of public health facilities. Additionally, process and outcome measures should move beyond the current focus on diagnosis and management of diseases and survival to routinely capture patient satisfaction and aspects of service timeliness, appropriateness and convenience.

It is important that performance measurement systems containing quality indicators are institutionalized at the national and regional level and embedded within a system underpinned by regular monitoring, evaluation and feedback on performance to inform quality assurance and improvement efforts. Although some countries such as England, Sweden, the Netherlands and Slovenia routinely publish regional comparison reports of public health data, they are rarely acted upon, limiting their ability to improve the quality of public health services. In all countries, the development of holistic accountability frameworks, in conjunction with regular public reporting of data, regional benchmarking and incentives tied to performance, is critical to inform decision-making and promote quality improvement at the national and local level.

References

- Accredited Programmes (n.d.) In: APHEA – Agency for Public Health Accreditation [website]. (http://aphea.net/Pages/A3.PROGRAMMES/Accredited_Programmes.html, accessed 21 May 2018).
- Arbyn M, Anttila A, Jordan J et al. eds. (2010). European guidelines for quality assurance in cervical cancer screening, 2nd edition. European Commission, Health & Consumer Protection Directorate-General. Luxembourg: Office for Official Publications of the European Communities.
- Braithwaite J, Healy J, Dwan K (2005). The governance of health safety and quality. A discussion paper. Canberra: Commonwealth of Australia.
- Council of Europe (1997). Recommendation No. R (97) 17 of the Committee of Ministers to Member States on the development and implementation of quality improvement systems (QIS) in health care. Strasbourg: Council of Europe.
- CQC (2014). Guidance for providers on meeting the fundamental standards and on CQCs enforcement powers. Consultation Document. London: Care Quality Commission. (http://www.cqc.org.uk/sites/default/files/20140725_fundamental_standards_and_enforcement_consultation_final.pdf, accessed 21 May 2018).
- D'Ambrosio L, Dara M, Tadolini M, Centis R, Sotgiu G, van der Werf MJ et al. (2014). Tuberculosis elimination: theory and practice in Europe. *Eur Respir J*.43(5):1410–1420. doi.10.1183/09031936.00198813 PMID:24389868
- Deblonde J, Meulemans H, Callens S, Luchters S, Temmerman M, Hamers FF (2011). HIV testing in Europe: mapping policies. *Health Pol*.103(2–3):101–110. doi.10.1016/j.healthpol.2011.06.012 PMID:21794943
- Department of Health. (2017). Health and social care outcomes frameworks. London: Department of Health. (<https://www.gov.uk/government/collections/health-and-social-care-outcomes-frameworks>, accessed 23 May 2018).
- Donabedian A (1980). The definition of quality and approaches to its management. Ann Arbor: Health Administration Press.
- Donabedian A (1988). The quality of care. How can it be assessed? *JAMA*.260(12):1743–8. doi.10.1001/jama.1988.03410120089033
- EC (2017). European Core Health Indicators. Brussels: European Commission. (https://ec.europa.eu/health/indicators/echi_enhttp://www.oecd.org/els/health-systems/health-care-quality-indicators.htm, accessed 21 May 2018).

ECDC (2016). Antimicrobial resistance strategies and action plans. European Centre for Disease Prevention and Control. (http://ecdc.europa.eu/en/healthtopics/Healthcare-associated_infections/guidance-infection-prevention-control/Pages/antimicrobial-resistance-strategies-action-plans.aspx, accessed 21 May 2018).

ECDC (2017a). European Centre for Disease Prevention and Control [website]. Stockholm: European Centre for Disease Prevention and Control. (<http://ecdc.europa.eu/en/publications/guidance/Pages/index.aspx>, accessed 30 May 2018).

ECDC (2017b). Proposals for EU guidelines on the prudent use of antimicrobials in humans. Stockholm: European Centre for Disease Prevention and Control.

European Commission (2016). So what? Strategies across Europe to assess quality of care. Report by the Expert Group on Health Systems Performance Assessment. Luxembourg: Publications Office of the European Union.

European Council (2003). Council Recommendation of 2 December 2003 on Cancer Screening. Off J Eur Union L.327(34):34–8.

European Observatory on Health Systems and Policies (2017a). Health System Transition profile of Germany. Brussels: The Health Systems and Policy Monitor. (<http://www.hspm.org/countries/germany28082014/livinghit.aspx?Section=5.1%20Public%20health&Type=Section>, accessed 21 May 2018).

European Observatory on Health Systems and Policies (2017b). Health System Transition profile of Netherlands. Brussels: The Health Systems and Policy Monitor. (<http://www.hspm.org/countries/netherlands25062012/countrypage.aspx>, accessed 21 May 2018).

European Observatory on Health Systems and Policies (2017c). Health System Transition profile of Poland. Brussels: The Health Systems and Policy Monitor. (<http://www.hspm.org/countries/poland27012013/livinghit.aspx?Section=5.1%20Public%20health&Type=Section>, accessed 21 May 2018).

Faculty of Public Health. (2014). UK Faculty of Public Health response to the consultation on the Health and Care Professions (Public Health Specialists and Miscellaneous Amendments). London: Faculty of Public Health. (<http://www.fph.org.uk/uploads/UK%20Faculty%20of%20Public%20Health%20consultation%20response%20-%20regulation%20of%20non-medical%20PH%20specialists%20Nov2014%20FINAL.pdf>, accessed 21 May 2018).

Federal Health Monitoring (2018). The Information System of the Federal Health Monitoring [website] [English]. Wiesbaden: Federal Health Monitoring

(http://www.gbe-bund.de/gbe10/pkg_isgbe5.prc_isgbe?p_uid=gast&p_aid=14709305&p_sprache=E, accessed 21 May 2018).

German Obesity Society. (2015). Guidelines. Martinsried: Deutsche Adipositas-Gesellschaft. (<http://www.adipositas-gesellschaft.de/index.php?id=9>, accessed 21 May 2018).

Girard J, Minvielle E (2002). Measuring up: lessons and potential. In: OECD. Measuring Up: Improving Health System Performance in OECD Countries. Paris: OECD.

Health Council of the Netherlands. (2015). Advisory reports on prevention. The Hague: Health Council of the Netherlands. (<https://www.gezondheidsraad.nl/en/task-and-procedure/areas-of-activity/prevention/publications>, accessed 21 May 2018).

Honoré PA, Wright D, Berwick DM, Clancy CM, Lee P, Nowinski J et al. (2011). Creating a framework for getting quality into the public health system. *Health Aff (Millwood)*. 30(4):737–45. doi.10.1377/hlthaff.2011.0129 PMID:21471496

IARC (2017). Cancer Screening in the European Union. Report on the implementation of the Council Recommendation on cancer screening. Luxembourg: European Commission. (https://ec.europa.eu/health/sites/health/files/major_chronic_diseases/docs/2017_cancerscreening_2ndreportimplementation_en.pdf, accessed 21 May 2018).

Institute of Medicine (1999). Measuring the Quality of Health Care. Washington, DC: The National Academies Press. (<https://www.nap.edu/read/6418/chapter/2>, accessed 21 May 2018).

Institute of Medicine (2001). Crossing the quality chasm: A new health system for the 21st century. Washington, DC: National Academy Press.

ISO (2017). Standards Catalogue. International Organization for Standardization. Geneva: ISO. (<https://www.iso.org/standard/>, accessed 21 May 2018).

Kelley E, Hurst J (2006). Health Care Quality Indicators project. Conceptual framework paper. OECD Health Working Papers 23. Paris: OECD. doi.10.1787/18152015.

Klassen A, Miller A, Anderson N, Shen J, Schiariti V, O'Donnell M (2010). Performance measurement and improvement frameworks in health, education and social services systems: a systematic review. *Int J Qual Health Care*. 22(1):44–69. doi.10.1093/intqhc/mzp057 PMID:19951964

Legido-Quigley H, McKee M, Nolte E, Glinos I (2008a). Assuring the quality of health care in the European Union. Observatory Studies Series No. 12. Copenhagen: World Health Organization, on behalf of the European Observatory on Health Systems and Policies.

Legido-Quigley H, McKee M, Walshe K, Suñol R, Nolte E, Klazinga N (2008b). How can quality of health care be safeguarded across the European Union? *BMJ*. 336(7650):920–3. doi.10.1136/bmj.39538.584190.47

Lohr K (1990). *Medicare: A strategy for quality assurance*. Washington, DC: National Academy Press.

McLees AW, Nawaz S, Thomas C, Young A (2015). Defining and assessing quality improvement outcomes: a framework for public health. *Am J Public Health*.105(S2 Suppl 2):S167–73. doi.10.2105/AJPH.2014.302533

Migliori GB, Zellweger JP, Abubakar I, Ibraim E, Caminero JA, De Vries G et al. (2012). European Union standards for tuberculosis care. *Eur Respir J*.39(4):807–19. doi.10.1183/09031936.00203811

Nahrgang S, Nolte E, Rechel B (2018). Antimicrobial resistance. In: Rechel B et al. eds. *The role of public health services in addressing public health problems in Europe: the case of obesity, alcohol and antimicrobial resistance*, Copenhagen: World Health Organization (acting as the host organization for, and secretariat of, the European Observatory on Health Systems and Policies).

National Board of Health and Welfare (2017). *National Guidelines for Methods of Preventing Disease*. Stockholm: Socialstyrelsen. (<http://www.socialstyrelsen.se/nationalguidelines>, accessed 21 May 2018).

National Institute of Public Health (2016). *Health in the Municipality*. Ljubljana: Ministry of Health of the Republic of Slovenia. (<http://www.nijz.si/en/health-in-municipality>, accessed 21 May 2018).

NICE (2012). *The NICE public health guidance development process, 3rd edition. Process and methods*. London: National Institute for Health and Care Excellence. (<https://www.nice.org.uk/process/pmg5/chapter/introduction>, accessed 21 May 2018).

NICE (2014). *Types of guideline*. London: National Institute for Health and Care Excellence. (<https://www.nice.org.uk/about/what-we-do/our-programmes/nice-guidance/nice-guidelines/types-of-guideline>, accessed 21 May 2018).

NICE (2016). *Obesity in adults: prevention and lifestyle weight-management programmes. Quality standard*. London: National Institute for Health and Care Excellence (<https://www.nice.org.uk/guidance/qs111/resources/>

obesity-in-adults-prevention-and-lifestyle-weight-management-programmes-pdf-75545293071301, accessed 21 May 2018).

NICE (2017). Standards and indicators. London: National Institute for Health and Care Excellence. (<https://www.nice.org.uk/standards-and-indicators>).

Nolte E (2010). International benchmarking of health care quality. Santa Monica, London: RAND Corporation & London School of Hygiene & Tropical Medicine.

Nolte E, Roland M, Damberg CL, Mattke S, Cacace M, Goshev S et al. (2011). Informing the development of a resource allocation framework in the German healthcare system. Santa Monica: RAND Corporation.

OECD (2017). Data for Measuring Health Care Quality and Outcomes. Paris: OECD. (<http://www.oecd.org/els/health-systems/health-care-quality-indicators.htm>, accessed 21 May 2018).

OECD/EU (2016). Health at a Glance: Europe 2016: State of Health in the EU Cycle. Paris: OECD. (<http://www.oecd.org/health/health-at-a-glance-europe-23056088.htm>, accessed 21 May 2018).

Otok R, Levin I, Sitko S, Flahault A (2011). European accreditation of public health education. *Pub Health Rev.*33(1):30–8. doi.10.1007/BF03391619.

Poscia A, Silenzi A, Ricciardi W (2018). Italy. In: Rechel B et al. eds. Organization and financing of public health services in Europe: Country reports. Copenhagen: WHO Regional office for Europe on behalf of the European Observatory on Health Systems and Policies: 49–64.

Public Health England (2015). Quality governance guidance for local authority commissioners of alcohol and drug services. London: Public Health England. (<http://www.nta.nhs.uk/uploads/quality-governance-guidance-for-local-authority-commissioners-of-alcohol-and-drug-services.pdf>, accessed 21 May 2018).

Public Health England (2017a). Public Health Outcomes Framework. London: Public Health England. (<http://www.phoutcomes.info/>, accessed 21 May 2018).

Public Health England (2017b). Public Health Profiles. London: Public Health England. (<https://fingertips.phe.org.uk/>, accessed 21 May 2018).

Public Health Quality Forum (2008). Consensus statement on quality in the public health system. Washington, DC: Department of Health and Human Services. (https://www.apha.org/-/media/files/pdf/topics/qi/phqf_consensus_statement_92208.ashx/, accessed 21 May 2018).

Puthaar E, Perry N, Broeders M, eds. et al. (2006). European guidelines for quality assurance in breast cancer screening and diagnosis, 4th edition. European Commission, Health & consumer Protection Directorate-General. Luxembourg: Office for Official Publications of the European Communities.

Rechel B, McKee M, Haas M, Marchildon GP, Bousquet F, Blümel M et al. (2016). Public reporting on quality, waiting times and patient experience in 11 high-income countries. *Health Pol.* 120(4):377–83. doi.10.1016/j.healthpol.2016.02.008 PMID:26964783

Ricciardi W, Atella V, Cricelli C, Serra F (2015). *La tempesta perfetta* (Perfect Storm). Rome: Il pensiero Scientifico Editore.

RIVM (2017). Dutch Health Care Performance Reports. Bilthoven: RIVM. (<http://www.gezondheidszorgbalans.nl/English>, accessed 21 May 2018).

Rooney AL, van Ostenberg PR (1999). *Licensure, accreditation, and certification: Approaches to health services quality. Quality Assurance Methodology Refinement Series.* Maryland, USA: Center for Human Services.

Segnan N, Patnick J, von Karsa L, eds. (2010). European guidelines for quality assurance in colorectal cancer screening and diagnosis, 1st edition. European Commission, Health & Consumer Protection Directorate-General. Luxembourg: Office for Official Publications of the European Communities.

Swedish Municipalities and County Councils (2014). *Open Comparisons: public health.* Brussels: Swedish Association of Local Authorities and Regions (SALAR). (<https://skl.se/tjanster/merfranskl/oppnajokforelser/folkhalsa.1125.html>, accessed 21 May 2018).

Von Karsa L, Anttila A, Ronco G, Ponti A et al. (2008). *Cancer Screening in the European Union. Report on the implementation of the Council Recommendation on cancer screening. First Report.* Brussels: European Communities.

WHO (2014). *European Vaccine Action Plan, 2015–2020.* Copenhagen: WHO Regional Office for Europe. (http://www.euro.who.int/__data/assets/pdf_file/0007/255679/WHO_EVAP_UK_v30_WEBx.pdf?ua=1, accessed 21 May 2018).

Chapter 7

Key policy lessons

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Chapters 3 to 6 have explored the organization and financing of public health services in Europe, the public health workforce and the quality assurance of public health services. This chapter brings together some of the key policy lessons and conclusions that emerged from this analysis.

While much of the synthesis draws on in-depth country reports (Rechel et al., 2018), we also considered evidence on other countries and hope that the policy lessons will be of relevance to many countries in Europe and beyond. At the very least, our findings point to some of the potential challenges and opportunities for strengthening public health services and the response to major public health issues.

At the outset it is important to highlight that it remains very difficult to clearly define the concept of public health services. This may not come as a surprise given the wide variation in the understanding and interpretation of the notion of public health itself and the difficulty of translating it into different languages and across the diversity of health systems in Europe. It also reflects that modern public health is very much the product of changing ideas about the role of the state in the health and social arenas (Rechel & McKee, 2014). Chapter 2 has shown that the use of the term public health services remains ambiguous, with interpretations ranging from a focus on the actual *process* of delivering services to those referring more broadly to the *structures*, i.e. the agencies and structures enabling the provision of these services. While it will not be possible to resolve this ambiguity in the context of our study, it is necessary to keep it in mind when considering the synthesis of the evidence presented here.

Public health services are poorly financed

The financing of public health services is no less complex (Box 7.1). For some countries, data reported in international databases differ from those that are reported and used nationally. As Chapter 4 has pointed out, there are

Box 7.1 *Key messages on financing for public health*

- There are major concerns about the accuracy of data on financing for public health.
- Overall, resources spent on public health seem low and have declined further in the wake of the international economic crisis.
- The public health community seems to have failed to make a convincing case for investment in public health, but there is also a lack of political will.
- It is also crucial to influence budgets outside the health sector to address public health problems.
- Staff costs account for the bulk of expenditure for public health.
- The public sector is the main source of financing for public health, through general government expenditure, social security funds or a mix thereof.
- Earmarked taxes on harmful substances are an effective way of curbing their use, but are unlikely to be the solution for sustainable financing for public health.
- There is scope for improved pooling of resources and strategic purchasing.

also improbable shares (both high and low) of health expenditure spent on public health in some countries. In addition, national health accounts may underestimate actual spending as some public health services, for instance those involving intersectoral working, or public health services provided by other sectors, may not be recorded. What is clear despite all the uncertainty is that the share of health expenditure devoted to public health services in Europe and recorded in international databases is small and has declined further in the wake of the international economic crisis.

It seems that – in many countries – the public health community has failed to make a convincing case for continued investment in public health – despite the proven cost benefits of public health interventions (Masters et al., 2017), although there is also a lack of political will. In addition to cuts in spending, other challenges to financial sustainability can be identified, most notably the lack of long-term funding commitments.

Sometimes, it is suggested that public health might benefit from earmarked taxes, especially on substances harmful to health. However, that view is fundamentally mistaken. The use of taxes on these products is intended to reduce their use (as with tobacco) or encourage manufacturers to reformulate them (as with sugar-sweetened beverages). If these policies are successful, as they invariably are, the amount of money for public health services will diminish. More important, however, is the need to create mechanisms that can offer sustainability of funding for public health. Ultimately, as many public health functions are public goods, this can only come from general government revenues, whether raised nationally or locally.

The public health workforce needs to be strengthened

In many European countries, there are no reliable statistics as to who belongs to the public health workforce (Box 7.2). At the same time, it is known that there are shortages of personnel, low salaries and poor staff morale in several countries. Yet, surprisingly, many of the same countries do not have plans or strategies for developing the public health workforce. There is a clear need at both the national and the European level to take action. This could start with identifying the core competencies that public health workers should have to address current population health needs, the systems that need to be in place for them to achieve these competencies and the employment structures that allow them to exercise these competencies in practice. Efforts are under way at the European level to identify core public health competencies and strengthen training and continuing professional development in public health, but it is clear that these need to be stepped up. Above all, there is an urgent need to improve the status of the public health workforce. If salaries and working conditions of those working in public health are much worse than their equivalents in health care, it is obvious that it will be difficult to attract and retain highly skilled individuals. However, this must be accompanied by measures to raise expectations of the skills required to practice public health. In too many countries, a career in public health is seen as being reserved for those who are unable to succeed in clinical work, even though modern public health practice demands just as high a level of skills, albeit in different areas. These changes will only be achieved with a much higher standard of professional leadership than has, so far, been seen in many countries.

Box 7.2 *Key messages on the public health workforce*

- It is not possible to quantify the public health workforce in Europe.
- There is a core and a wider public health workforce.
- It will be essential to develop and strengthen both.
- In several countries, there are shortages of personnel, low salaries and poor staff morale.
- Most countries in Europe do not have plans or strategies for developing their public health workforce.
- There is a need for concerted action by national and international organizations.
- This will need to include the development of core competencies and improved training and continuing professional development.
- Working conditions will need to be improved and there is a need for professional leadership.

Little is known about the quality and performance of public health services

Assuring, monitoring and improving the quality of public health services is central to achieving a high-performing health system that is safe, effective and responsive to the health needs of patients and the wider population. However, within Europe, core features of an effective quality assurance system for public health services are underdeveloped or absent (Box 7.3). While there are quality standards or guidelines for public health interventions such as cancer screening, measurable standards or guidelines for many other public health areas are lacking in a number of countries. The development of guidelines on a wider range of public health areas is essential to support quality assurance, as is the need to ensure that all guidelines are linked to measurable quality standards designed to promote quality improvement. There also remains an urgent need for the development and institutionalization of national and regional quality assessment and reporting frameworks for public health. There is, however, also a need for caution. Not everything that is important can be measured and there are important aspects of public health practice, such as advocacy, that risk being excluded if there is too narrow a focus on measurement.

Box 7.3 *Key messages on quality assurance*

- Little is known about the quality of public health services in Europe.
- Core features of an effective quality assurance system for public health services are still underdeveloped or absent in most countries.
- Quality standards or guidelines are only available for selected areas of public health.
- Quality assessment and reporting frameworks for public health are underdeveloped.
- Public health indicator frameworks focus on indicators of disease prevention and early detection, rather than on explicit measures of quality.
- There is a need for structural, process and outcome indicators of quality.

The need for coordination mechanisms

With the large number of actors and agencies involved in policy formulation and implementation, there is a clear need for coordination mechanisms (Box 7.4). Public health organizations and agencies could play a role in such coordination. However, in many countries appropriate mechanisms are lacking. As a result, lines of accountability between public health institutions at the different tiers will remain unclear, with uncertainty about institutional roles and responsibilities in addressing key public health challenges, and, ultimately, a failure to coordinate across sectors.

Box 7.4 *Key messages on the organization of public health services*

- The organization of public health services is largely context-dependent, related to the wider administrative structure of the country.
- There are no one-size-fits all solutions.
- There are advantages and disadvantages of locally led public health services.
- Where public health services are decentralized, they need support by the national level.
- Support tools include information systems, evidence-based guidelines, dedicated support structures, accountability mechanisms and a defined minimum level of services and expenditure.
- Reforms of public health services must consider financing instruments, human resource strategies, improving coordination between public health and other services, and changes in service delivery processes.
- There has been a lack of innovation and experimentation in public health services.
- Good governance will be crucial for successful reforms.

The need for cooperation is particularly acute for actors at different administrative levels. Arguably, although not inevitably, this may pose greater challenges in countries that have devolved some or all public health functions to lower tier levels in the system. In Sweden, for example, local municipalities seek advice from county councils but there are, at present, no mechanisms to help councils coordinate the actions of different municipalities. In contrast, Italy has established mechanisms for coordinating national and regional decision-making, such as through agreements on health care and a conference system to aid coordination across the different tiers of government.

The role of the regional level

As mentioned above, regional and local administrations assume major responsibility for the development and implementation of public health policies in a number of European countries. In more decentralized systems, such as Italy, central government sets the main policy directions, while the country's 19 regions and two autonomous provinces are responsible for the formulation of their respective regional policies and for the organization of regional public health services and health care. Therefore, problem identification and the resulting agenda-setting for public health policies are discussed simultaneously within working groups at both the national and regional levels.

Even in more centralized countries such as France, the regions (more specifically, the ARSs) are tasked with ensuring that health care provision meets the needs of

the local population. The ARSs elaborate regional policies in line with national frameworks and priorities, resulting in regional strategic health plans (*Plan stratégique régional de santé*, PSRS).

Regional and locally led policies have both advantages and disadvantages. One challenge is variation across subnational units. Yet, regional level initiatives may find it easier to engage relevant stakeholders and be more effective in achieving change because the initiatives can be tailored for instance to specific population groups and implementation can build on well-established institutional and professional networks. Other advantages of decentralized structures can be that decision-making is more responsive to population needs, that they foster trust in local democratic structures, that they facilitate intersectoral working through adjacent policy areas, and that they allow for and stimulate local innovation.

Ways to support regions in their public health policies

Where regional administrations have a degree of independence in dealing with public health challenges, it is crucial that the national government finds ways to encourage alignment with other regions and local units, and national goals and objectives. Possible tools include information systems, such as local health profiles, that allow regions or municipalities to gauge how they compare to others or to the national average, or easily accessible evidence-based guidelines on public health interventions. Dedicated support structures at the national or regional level can be another way of building capacity and improving local public health action. Accountability mechanisms are also important, although these should be consistent with the constitutional context. However, a defined minimum basket of public health services, a minimum level of local expenditure on public health, and financial incentives or sanctions can be powerful tools to entice local public health action.

Reforming organizational structures in line with population health goals

Although policy-makers often ask about how best to organize their public health services, the reality is that there is rarely much scope for change as the organization of public health services is based on wider decisions about national administration, in particular at what level power lies and how much it is centralized or decentralized. Beyond the obvious statement that roles and responsibilities should be placed at the point in the system where they can be most effective, something that will be specific to a particular country, the real question should be about what public health organizations are actually

doing. For instance, in many countries of eastern and southern Europe, public health services are still focused on basic, typically reactive measures to tackle the burden of infectious diseases, although noncommunicable diseases account for more than three quarters of the disease burden in all countries of the WHO European Region. In all countries, public health organizations have been resistant to change. Strategies for reform must consider issues such as financing instruments, human resource strategies, improving coordination between public health and other services, and changes in service delivery processes, especially integrating public health interventions into primary health care, hospital and social care settings. In all countries, the use of the law to bring about change, such as bans on smoking in public places and the enforcement of plain packaging, have been among the most effective measures; there is clear scope for expanding such approaches.

Implementing public health policies and reforms

Contextual factors are crucial for the successful implementation of any health reform, including of public health services. In general, implementation of policies and reforms is characterized by complexity and tends to involve multiple actors and levels of policy that are not easily comparable across countries. In view of the overriding importance of contextual factors, it is difficult to come up with any single or simple model for meeting the challenges of implementing public health reforms.

However, there are some factors that have proven important. One of the most important is good governance – both within the health system as well as through an enhancement of intersectoral policies and actions. This involves the participation of key stakeholders through consistent coordinated efforts to persuade them of the need for reform and the costs of nonreform. Often, this is achieved through a balance between top-down and bottom-up approaches. Successful implementation of public health policies also requires policy capacity for the formulation of policies, but also subsequent stages of the policy process. Above all, it requires inspirational leadership, something that has too often been lacking.

Final words

The evidence reviewed in this volume should be a wake-up call for the public health community in Europe. In every one of the areas examined it is apparent that there are enormous gaps in our knowledge. How many people work in public health? How much money is spent on public health? What does it

actually achieve? None of these questions can be answered easily. What is clear is that, with a few exceptions, those responsible for public health services have failed to take advantage of the enormous opportunities now available. Too many are still dealing with the threats from the past and failing to anticipate those that will emerge in the future. Worse, in some countries they are using the methods of the past, concentrating on largely ineffective measures such as health education, rather than those of the future, such as social marketing. Often, they are operating in the dark. There is simply no comparison between the degree of sophistication with which data are analysed by large supermarket chains or food manufacturers and those in public health services. Far too little effort has been dedicated to obtaining the timely, comprehensive, and accurate data that should be the basis for public health action. In many countries, the agenda has been dominated by those who threaten health, such as tobacco, alcohol, and processed food manufacturers, rather than the public health community. The former have been allowed to frame the dominant narrative, highlighting individual choice rather than societal benefit. The public health community has shied away from legitimate action against these products, viewing it as being political and therefore off limits. Above all, there has been a failure of leadership in many countries, especially apparent in comparisons with other related sectors, such as the Green movement, which has captured the public imagination in ways that public health has failed to.

References

- Masters R, Anwar E, Collins B, Cookson R, Capewell S (2017). Return on investment of public health interventions: a systematic review, *J Epidemiol Comm Health*.71:827–834.
- Mays GP, Smith SA, Ingram RC, Racster LJ, Lamberth CD, Lovely ES (2016). Public Health Delivery Systems. *Am J Prev Med*.36(3):256–265.
- Rechel B, Maresso A, Sagan A, Hernández-Quevedo C, Williams G, Richardson E et al. eds. (2018). Organization and financing of public health services in Europe: Country reports. Copenhagen: WHO (acting as the host organization for, and secretariat of, the European Observatory on Health Systems and Policies).
- Rechel B, McKee M eds. (2014). Facets of Public Health in Europe. Maidenhead: Open University Press.

How are public health services in Europe organized and financed? With European health systems facing a plethora of challenges that can be addressed through public health interventions, there is renewed interest in strengthening public health services. Yet, there are enormous gaps in our knowledge. How many people work in public health? How much money is spent on public health? What does it actually achieve? None of these questions can be answered easily.

This volume brings together current knowledge on the organization and financing of public health services in Europe. It is based on country reports on the organization and financing of public health services in nine European countries and an in-depth analysis of the involvement of public health services in addressing three contemporary public health challenges (alcohol, obesity and antimicrobial resistance).

The focus is on four core dimensions of public health services: organization, financing, the public health workforce, and quality assurance. The questions the volume seeks to answer are:

- How are public health services in Europe organized? Are there good practices that can be emulated? What policy options are available?
- How much is spent on public health services? Where do resources come from? And what was the impact of the economic crisis?
- What do we know about the public health workforce? How can it be strengthened?
- How is the quality of public health services being assured? What should quality assurance systems for public health services look like?

This study is the result of close collaboration between the European Observatory on Health Systems and Policies and the WHO Regional Office for Europe, Division of Health Systems and Public Health. It accompanies two other Observatory publications: *Organization and financing of public health services in Europe: country reports* and *The role of public health organizations in addressing public health problems in Europe: the case of obesity, alcohol and antimicrobial resistance*.

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