By: Linda Marks, David J. Hunter, and Richard Alderslade

Strengthening Public Health Capacity and Services in Europe

A Concept Paper

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ABSTRACT

This paper, jointly developed by Durham University and WHO Europe, was written to inform
"Strengthening Public Health Capacities and Services in Europe: a Framework for Action", which will
accompany Health2020, the new European Health Strategy. It explores the contested nature of public
health and the complexity of contemporary public health challenges. These have implications for the
ways in which health systems and public health systems are understood and defined as well as for
relationships between them. Stewardship of the health of the population and the values of equity and
social justice underpin concepts of 'good governance'; they are also fundamental to public health
practice and public health services are most effective where there is congruence between them.
Complex public health challenges, such as persistent health inequalities or rising rates of obesity,
require systems thinking, new approaches to knowledge exchange and to coalition building - skills of
increasing importance for a 21st century public health workforce. This paper explores the implications
of these issues in the context of developing an action framework for public health across Europe.

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Acknowledgments

The Essential Public Health Operations (EPHOs), described in detail in Annex 1, have been developed over a period of years by the WHO Regional Office for Europe. The EPHOs are key to assessing public health strengths and capacity in Member States, and are subject to further development in line with emerging public health challenges.

Foreword

The WHO European Region faces multiple health challenges in an extremely dynamic socio-political context, where globalization, technological advances, and persistent health inequalities play an increasingly important role. The level and distribution of health vary within and across countries, with a range of determinants including socio-economic circumstances, lifestyles and behaviours, and health system capacities.

Public health policies, functions and governance arrangements affecting health need to be strengthened and made more coherent with a view to increasing levels of health equally. However, a common understanding of what constitutes public health and public health services is lacking; skills and infrastructure in public health across the European Region are patchy; and in many Member States the capacity to meet contemporary public health challenges remains limited. In some countries, public health development has been held back by lack of political commitment. Across the Region, therefore, there is the need for a renewed commitment to a strong public health infrastructure and the Essential Public Health Operations (EPHOs) comprising health protection, health improvement and healthcare services development.

In 2010, the Regional Office was asked by the European Regional Committee to work to strengthen public health capacity and services across the Region. In order to provide a strategic context and framework for this work, the Regional Office has worked with Durham University to prepare this conceptual document: "Strengthening Public Health Capacity and Services in Europe: A Concept Paper". It is intended this work will be taken further with the development of a Public Health Action Framework in the context of the new European Health Policy: Health2020. The Action Framework will be presented to the Regional Committee for final approval in 2012.

This document sets out concepts and definitions for public health, and its interrelationship with health systems, healthcare services and wider public policy. In addition, it is also important that the EPHOs, which appear in Annex 1 of this document, are agreed and used as a basis for assessing Public Health Capacity and Services and influencing the spectrum of policy-making.

The Public Health Action Framework will represent a unique opportunity for Member States to review their existing public health capacities and services and to define country-specific policies to strengthen them. This process will form the basis for developing a much stronger public health function in Europe.

Based on a literature review and wide consultations, this publication places Public Health clearly as a function of the whole society, describing the nature, values, mission and function of public health activities and services in the WHO European Region. It also explores opportunities for integration of Public Health principles and functions more systematically

into all parts of society through a whole of government and intersectoral approach, based on increased participation, transparency and accountability.

We invite Member States of the WHO European Region to join the efforts in strengthening Public Health in a broad and participatory process.

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WHO Regional Director for Europe

Strengthening Public Health Capacity and Services in Europe: A Concept Paper

Background

1. This paper forms part of a suite of background documents designed to inform the development of "Strengthening Public Health Capacities and Services in Europe: a Framework for Action". The framework for action was discussed in the 61st session of the Regional Committee (RC61) in September 2011 for submission to RC62 for final approval. The background to this framework is further described in document EUR/RC60//SCRC/18.[1] It forms part of a wider process for developing a European framework for action to strengthen public health capacities and services in all Member States and will accompany the new European health strategy, Health2020.

2. The main purpose of this concept paper is to identify points of discussion and debate relevant for developing a renewed focus and commitment to public health capacity, functions and services across WHO Europe. It is a joint venture between Durham University and WHO Europe and was developed through an iterative process involving wide consultation and regular liaison with advisers from Public Health Services from WHO Regional Office for Europe and members of the Public Health Expert Advisory Group. We refer throughout to frameworks and documents developed by the WHO Regional Office for Europe in order to contextualise this paper.

Introduction

3. This paper focuses on points of transition and debate in the field of public health, illustrates some key concepts and explores their implications for a framework for action. A number of themes are identified.

4. First is the definition of public health, a concept with shifting parameters and multiple interpretations. This leads to a consideration of whether current definitions fully capture current public health challenges.

5. Second, and related to the above, the complex causation of many current threats to public health has implications for conceptualising health systems, public health systems, and the relationships between them. Dimensions of systems thinking and their relevance to complex public health problems are discussed in later sections.

6. Third is the notion of stewardship[i] of the health of the population, a concept which is closely associated with equity and social justice. This is an underlying governance[ii] principle

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[i] The concept of stewardship has been applied to many different areas (see para.53): a steward has been described as "one who is entrusted with the management of things belonging to another" (Omaswa F and Boufford JI, 2010[2]). In their discussion of this concept, Omaswa and Boufford note that "Governments are stewards, or protectors, of the public interest and have the ultimate responsibility for assuring conditions that

for the public health function and is also regarded as a hallmark of "good governance", informing decision-making across different levels of authority. We explore some of the complexities of governance arrangements and their relevance to population health in paras. 46-59.

7. Finally in paras. 66-79, we briefly consider some of the implications of the concept paper for developing essential public health operations (EPHOs) and an action framework for strengthening public health skills and capacities in the European Region.

8. There is often a gap between principles of governance and their translation into governance arrangements and decision-making processes. For example, prioritisation processes typically favour immediate healthcare demands over longer-term investment in health. We do not review this literature in this concept paper but suggest that commitment to the health of the population needs to be matched by attention to governance arrangements and decision-making processes at national, regional and local levels (combined with coordination across them) if effective public health strategies are to be delivered over the longer term. Prioritisation tools, in particular, could be further developed and prioritisation processes made more transparent. Some countries, like England through the work of the National Institute for Health and Clinical Excellence's (NICE) Centre for Public Health Excellence and the Local Government Group (LGG), are actively developing new tools in this area. NICE, for example, has embarked on a public health return on investment project which includes a review of methods for assessing cost-effectiveness, cost impact and return on investment. The Department of Health is encouraging further development of this approach and a pilot on tobacco and smoking is currently underway. The LGG is nearing completion of a programme of work that is intended to lead to a better understanding of how we more effectively measure the benefits of interventions in social, medical and economic terms. The work is being overseen by a Business Case Reference Group. An early publication in the process, "Valuing Health: developing a business case for health improvement",[4] offered initial support to local government by providing a baseline position of what is known about the financial and non-financial benefits to organizations resulting from health improvement activity. Later in 2011, a national guidance report and toolkit based on the experiences of four local authority pilot sites will be published.

9. As mentioned above, much of this concept paper is devoted to identifying points of transition and debate in contemporary public health. However, public health priorities (and public health systems across WHO European Region Member States) vary considerably, as some countries aspire to meet "traditional" public health standards related to quality of air, food and water, occupational health and surveillance while at the same time grappling with newer, and often much more complex, public health challenges requiring significant system and cultural change. These include: climate change, environmental degradation, food security, peak oil and other features of globalisation.

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allow people to be as healthy as they can be. Ministries of health and the ministers who lead them must be able to perform a set of core stewardship functions within the ministry and across government".

[ii] Governance is open to many interpretations (see para. 47) and, at its simplest, refers to the 'action or manner of governing' (Oxford English Dictionary[3]).

Definitions of public health

10. The definition of public health is a contested area with a core definition proving elusive.[5] Table 1 summarises definitions of public health from a selection of key institutions both internal to WHO and external; aspects which are emphasised or omitted are indicated in the comments column.

Table 1: Definitions of public health used by major stakeholders

Organization	Public Health Concept	Source	Comments
Internal			
WHO HQ	"Public health refers to all organized measures (whether public or private) to prevent disease, promote health, and prolong life among the population as a whole. Its activities aim to provide conditions in which people can be healthy and focus on entire populations, not on individual patients or diseases. Thus, public health is concerned with the total system and not only the eradication of a particular disease."	*Glossary of globalization, trade and health terms.* Geneva, WHO, 2011 (accessed at: http://www.who.int/trade/glossary/en/, 25 July, 2011).[6]	- Art and science - Organized efforts of the society + Among the population as a whole
WHO HQ	"The art of applying science in the context of politics so as to reduce inequalities in health while ensuring the best health for the greatest number."	*The World Health Report 1998*; *Life in the 21st century: A vision for all.* Geneva, WHO,1998.[7]	- Art and science + Best health + Politics + Inequalities
WHO HQ	"Public health is the science and art of promoting health, preventing disease, and prolonging life through the organized efforts of society."	Nutbeam D. *Health promotion glossary*. Geneva, World Health Organization, 1998.[8]	Acheson definition
WHO/ PAHO	"Public health is an organized effort by society, primarily through its public institutions, to improve, promote, protect and restore the health of the population through collective action."	*Public Health in the Americas.* Washington, World Health Organization/Pan American Health Organization, 2002.[9]	-Art and science + Health protection
WHO Western Pacific Region	The focus is on Essential Public Health Functions (EPHF). Broad public health definitions and concepts do not necessarily help countries to identify and evaluate the public health activities they currently undertake systematically, to identify gaps, and to plan and implement sustainable system changes.	*Essential Public Health Functions: The role of Ministries of Health.* WPR/RC53/10, Kyoto, 2002.[10]	Focus on EPHF
WHO Europe	"The science and art of preventing disease, prolonging life and promoting mental and physical health and efficiency through organized community efforts. Public health may be considered as the structures and processes by which the health of populations is understood, safeguarded and promoted through the organized efforts of society."	*Health 21: the health for all policy framework for the WHO European Region*, Health for All Series n 6. Copenhagen, WHO Europe, 1999.[11]	+ Mental and physical health + Efficiency - Organized efforts of society +Organized community

			efforts
European Observatory on Health Systems and Policies	"Public health is the science and art of preventing disease, prolonging life and promoting health through the organized efforts and informed choices of society, organizations, public and private, communities and individuals."	European Observatory on Health Systems and Policies Glossary (accessed at: http://www.euro.who.int/observatory/glossary/toppage, 25 March 2010). [12] (Draws on Wanless D. *Securing good health for the whole population*. London, DH, 2004.)	Wanless, definition . +Art and science +Organized efforts +Individual choices
External			
European Commission	Public health is the science and art of preventing disease, prolonging life and promoting mental and physical health and efficiency through organized community effort. Public health may be considered as structures and processes by which the health of the population is understood, safeguarded and promoted through the organized efforts of society(adapted from Nutbeam[8]).	*DG SANCO Health Inequalities Glossary,* 2007 (accessed at: http://ec.europa.eu/health/ph_determinants/socio_economics/documents/ev_060302_co03a_en.pdf, 25 March 2010). [13]	Based on Acheson definition and Nutbeam definition
UK PH Faculty	"Public health is the science and art of preventing disease, prolonging life and promoting health through organized efforts of society." (Sir Donald Acheson, 1988)	UK Public Health Faculty (accessed at; http://www.fph.org.uk/what_is_public_health, 20 July 2011). [14]	Acheson definition
Nordic School Public Health	"Public health is: the science and art of preventing disease, prolonging life and promoting health through organized efforts of society".	Magnússon, Gudjón. Health and human rights –a public health perspective, *Journal of Humanitarian Medicine* V.II, N.1,Jan/Mar 2002. [15]	Acheson definition
European Public Health Association, (EUPHA) and The Association of Schools of Public Health in the European Region	"Public health is the science and art of preventing disease, prolonging life and promoting health through the organized efforts and informed choices of society, organizations, public and private, communities and individuals."	Programme of the 3rd European Public Health Conference, Integrated Public Health, Amsterdam, The Netherlands, 2010 (Accessed at: www.aspher.org/pliki/pdf/amsterdam2.pdf, 25 July 2011). [16]	
Karolinska Institutet (KI)	"Public health is the multidisciplinary field that aims at studying and tackling health determinants at the population level, i.e. the social structure, living habits, working life, environment and health care system influences on population health and health care efficiency."	Karolinska Institutet. Public Health Programme. Stockholm, 2011 (accessed at: http://ki.se/ki/jsp/polopoly.jsp?d=11934&l=en, 10th July 2011). [17]	- Art and science +Social determinants +Healthcare system

The American Public Health Association	The American Public Health Association (APHA) has synthesized the many definitions and perspectives on public health and identified six basic principles of contemporary public health theory and practice : a) emphasis on collective responsibility for health and the prime role of the state in protecting and promoting the public's health; b) focus on whole populations; c) emphasis on prevention, especially the population strategy for primary prevention; d) concern for the underlying socio-economic determinants of health and disease, as well as the more proximal risk factors; e) multi-disciplinary basis which incorporates quantitative and qualitative methods as appropriate; and f) partnership with the populations served.	American Public Health Association (Accessed at: www.apha.org, 25th July 2011). [18]	- Art and science + Social determinants
The Institute of Medicine	"Public health is a mission for the fulfilment of society's interest in assuring the conditions in which people can be healthy, through organized community efforts aimed at the prevention of disease and the promotion of health, using activities undertaken within the formal structure of government as well as the associated efforts of private and voluntary organizations and individuals."	Institute of Medicine (USA). *The future of Public Health. Report of committee for the study of the future of public health.* Washington, DC, National Academy Press, 1988: 40 - 42 (accessed at: http://fermat.nap.edu/catalog/1091html, 10th July 2011). [19]	- Art and science +Health promotion, +Disease prevention + Conditions to be healthy
World Bank	For the World Bank's operational purposes, the major public health functions can be grouped into five categories: • policy development; • collecting and disseminating evidence for health policies, strategies and actions; • prevention and control of disease; • intersectoral action for better health; and • human resource development and capacity building.	World Bank. *Public Health and World Bank Operations.* Washington, World Bank, 2002. [20]	Focus on EPHF

11. Other definitions emphasise different aspects of public health. For example, the following definition (adapted from Gostin[21]) emphasises underlying values.

Public health is the science and art of organized societal efforts to ensure [and create] the conditions for the highest possible level of health and wellbeing of the population[s] consistent with the values of social justice and human rights.

12. Definitions can be summarised as varying along three axes according to the extent to which they: (1) are framed by the public health function and activities related to a public

health workforce; (2) are normative or descriptive; and (3) incorporate wider social and economic factors influencing population health and health inequalities.

13. Each approach is open to both broad and narrow definitions. In relation to (3), for example, definitions may include addressing the impact of specific social factors, such as worklessness or housing on health, or may extend to include the current and potential impacts on population health of cultural change, post-industrial consumer society,[22, 23, 24] climate change[25] or challenges arising from globalisation. The interconnectedness of these challenges suggests that an integral framework be adopted by public health leaders and practitioners to enable integrative forms of thinking to be applied to their own practices in order to respond more effectively to the complexity of public health problems.[26]

14. A narrow definition, whether related to the activities of the public health workforce or to the organized efforts of society (but limited to discrete areas, such as housing) risks understating the impact of the wide range of social and economic factors, acting singly and in conjunction, which influence health and affect health inequalities both for the current generation and into the future. On the other hand, a broad definition – everything that may affect the health of the population – risks re-badging all activities as public health activities, has no obvious limits, and may have the unintended effect of undermining commitment to public health through its loss of focus and dilution with wider policy.

15. There are sound arguments, therefore, for adopting a general and uncontentious definition which may be used as a basis for describing in more detail core activities of the public health function, but which is also sufficiently flexible to allow for debate over broader interpretations of what is involved in improving the health of the population in a given context and at a particular time.

16. At a minimum, public health is concerned with population health, has a future orientation (i.e. preventing illness, promoting health and identifying risks to future health) and involves societal or collective action including, but not limited to, public bodies and often involving coordination across different sectors.[27,28]

17. A definition of public health was originally put forward by Winslow in 1920 as:

> The science and art of preventing disease, prolonging life, and promoting physical health and efficiency through organized community efforts for the sanitation of the environment, the control of community infections, the education of the individual in personal hygiene, the organization of medical and nursing services for early diagnosis and preventive treatment of disease, and the development of the social machinery which will ensure to every individual in the community a standard of living adequate for maintenance of health, organising these benefits in such a fashion as to enable every citizen to realise his birthright of health and longevity.
> (C.E.A. Winslow, 1920).

18. This definition was adapted by Acheson in 1988,[29] has been widely accepted, and is proposed for adoption:

Public health is the science and art of preventing disease, prolonging life and promoting health through the organized efforts of society.
(Sir Donald Acheson, 1988)

19. This definition has important characteristics:
- It is intentionally generic and does not specify particular societal preoccupations for public health outcomes, which might change over time.
- It refers to public health as both a science and an art, essentially and always a combination of knowledge and action. Public health must have an evidence base, but action must be taken on the basis of current knowledge however imperfect or incomplete.
- The core purposes of public health are to prevent disease, prolong life and promote health.
- Public health is an organized societal function.

20. Several important and implicit aspects of this definition should be highlighted and explicitly communicated when necessary, including:
- health protection;
- outcomes such as "wellness" or quality of life;
- closer links across health and the environmental sector and environmental management;
- individual responsibility and choice;
- future orientation of public health;
- political empowerment, equity and human rights in relation to health;
- addressing social and political determinants of health as an essential and legitimate public health action;
- the importance of health systems for public health improvement, including the key public health responsibility of ministries of health, rather than their simply being managers of the healthcare system.

Two of these aspects, the future orientation of public health and health equity, are discussed in more detail below.

21. It is argued that industrialisation and technology will have a lasting impact on ecological systems and jeopardise the survival of future generations. These challenges for the future health of populations are not adequately reflected in public health discourse.[28] There is a lack of sustained engagement with future conditions and future health: the concentration on immediate risks and short-term benefits aligns with political discourse and an emphasis on "early deliverables" and meeting targets. This is reflected in the evidence base, where evidence from randomized controlled trials (RCTs) is ill-suited not only for identifying the impact of complex interventions[30] but also for assessing the impact of environmental changes which affect whole populations.[28]

22. Recent reports from the Commission on Social Determinants of Health[31] and on health inequalities[32] reiterate the persistence of inequalities in health within and between countries. It is argued that these inequalities will increase in the absence of urgent and systemic action.

As the latter (interim) report points out, "political empowerment, equity and human rights are also significant in relation to health and efforts to reduce inequality".

23. The Health Inequalities Indicators Project[33] has created health profiles for the countries in the European Union allowing comparison at regional, national and European levels. It demonstrates the potential of collecting, analysing and using health intelligence data to inform public health policy across Europe and encourage learning across countries. Moreover, inter-generational equity has been described as fundamental to the concept of stewardship.[28] Increasing recognition of the impact of health inequalities and the importance of considering inter-generational equity suggest that a focus on health equity should be made more explicit. The risk otherwise is that a focus on public health *per se* could serve to widen health inequalities both now and in the future.

24. Descriptions of core public health services follow from conceptions of the scope and purpose of public health: implications of a broader definition are considered below.

Developing a strategic approach to the "contested space" of public health

25. Operationalising activities, intelligence, systems, skills and competencies for public health is consequent on the definition of public health and what constitutes a "public health problem". In particular, the gap between social and economic conditions required for a healthy population and the activities of public health systems and practitioners (however defined) is the context within which many of the debates over definitions and the scope of public health activity are located and played out. The approach taken to this "contested space" of public health will influence the following interrelated factors:

Values
- values and ethical basis for public health practice
- boundaries of the stewardship role
- the nature of public health leadership

Skills
- the nature of public health competencies and the definition of a public health function
- progress in developing a multi-disciplinary workforce which works to collaborative goals and is equipped with system and adaptive skills
- the range of essential public health operations
- the definitions of "health intelligence" and the nature of information collected

Evidence
- the definition of public health evidence and decisions over which substantive areas are to be included within the evidence base
- assessment of the evidence base for public health
- translating evidence into practice to ensure that knowledge is acted upon

Systems
- the breadth of a "public health system" and of public health partnerships
- the integration of public health services into healthcare services, particularly primary care
- the nature of interactions between public health systems and broader social, political and cultural systems
- the future orientation of the public health profession and public health systems and the focus on inter-generational impact.

26. These issues are unlikely to be resolved through technical arguments or agreements over definitions, as many are inherently political and value-based, but through openly exploring them we can identify areas for future action or further debate. The following sections consider these issues in more detail. The question of health systems and public health systems, respectively, is considered before exploring the potential of governance frameworks in clarifying the "contested space" of public health.

Definitions of health systems and public health systems

27. The Tallinn Charter[34] defines health systems as follows:

> Within the political and institutional framework of each country, a health system is the ensemble of all public and private organizations, institutions and resources mandated to improve, maintain or restore health. Health systems encompass both personal and population services, as well as activities to influence the policies and actions of other sectors to address the social, environmental and economic determinants of health.

28. The WHO definition of health systems is both wide-ranging and aspirational. It emphasises the scope of health systems beyond health care and is inclusive of "those stewardship activities that aim to influence what other sectors do when it is relevant to health, even where the primary purpose is not health".[35]

29. The following questions emerge:
- how are the boundaries of health systems which lie outside healthcare systems to be delineated?
- are health systems typically understood as healthcare systems in practice, leading to confusion and a possible narrowing of the distinct contribution of public health systems to public health?
- are there distinctive contributions of a public health system which are not encompassed by the current WHO definition of "health systems"?

30. The definition of a "public health system" is clearly contingent on the definition and scope of public health. In a discussion of these issues (EUR/RC60/Conf.Doc/7 Report), public health is described as "a function of the whole society" and achieved through "the organized efforts and informed choices of society, public and private organizations communities and individuals". Public health has also been defined by Acheson in a way

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which makes it clear that it is a function of the whole of society, to be achieved through society's "organized efforts". Arguably, therefore, a public health system is considered as more inclusive than a health system. However, including all and every entity and activity which may have a bearing on health as forming part of a "public health system" suffers from the "all encompassing" problem noted above. Moreover, it is only when different organizations work interactively towards a shared objective, working as a whole, that they can be defined as working as a "system".

31. In an attempt to solve this conundrum, Hunter et al.[27] argue that rather than reach for a universal definition of a public health system, which may be neither fruitful nor possible, a networked approach would better reflect the diversity of organizations and sectors with a bearing on specific issues which pose a threat to population health (or conversely may serve to enhance it). Dimensions of a public health system will vary according to the health issue being addressed and the effectiveness of the system will depend on the active involvement of relevant organizations and communities.

32. Against this backdrop, we consider four approaches to framing public health systems and their constituent parts, although they may overlap in practice.

33. First is the workforce and infrastructure with a formal role in surveillance, identifying and responding to hazards and improving the health of populations, encompassing core activities across preventive services and identification of health threats. This locates a "public health system" within a broader health system (as defined by WHO) which can be further subdivided into public health activities primarily located within a healthcare system and those related to the wider health system (e.g. influencing policies in other sectors). Core activities include data collection and monitoring, health improvement, health protection, and health service quality improvement, and are reflected in capacity requirements for a public health workforce, including an adequate resource for data collection, analysis and surveillance. This approach is reflected in the three interconnected domains of public health developed by the Faculty of Public Health in the UK,[36] namely, health improvement, health protection and health service improvement, although elements of other approaches, described below, are also incorporated within this framework. The ten Essential Public Health Operations (EPHOs) developed through WHO Europe also largely reflect this approach (Annex 1) and are not described in further detail here.

34. While these are considered core activities, there is variation across Europe in relation to a formal public health infrastructure. Coordination across environmental health, health surveillance, occupational health and primary care may be poorly developed, reflecting differences in historical development, procedures for data integration, and organizational arrangements. Socio-economic status and health inequalities may not be measured. The importance of primary care (as reflected in the Declaration of Alma Ata in 1978) in delivering "health for all" may not be translated into practice.[37,38] These differences serve to underline slow progress and failure to re-orient health and political systems towards a community-based primary care service relevant for promoting health and addressing local health needs.

35. Second is an inclusive approach, following that of the Institute of Medicine (IOM),[39] for example, where a public health system is not limited to those with a formal role in improving health but reflects those organizations and groups which have an influence on health and which may need to work in concert for health issues to be addressed. This approach includes communities, the healthcare delivery system, employers and business, the media, academia and governmental public health infrastructure. It is premised on the importance of intersectoral approaches in the context of social and environmental influences on health and the creation of health inequalities within and across countries. It also reflects an awareness of the impact on health of non-health sectors and limitations of medical care in promoting population health. This approach is reflected in the promotion of "healthy public policy", and the EU commitment to health in all policies (HiAP).[40] While it may involve capacity-building in the public health workforce in order to foster a commitment to health improvement across different sectors, it may also involve partnership development for intersectoral action at local, regional and national policy levels.

36. Third is an extension of the IOM approach but with a greater focus on identifying and clarifying in a proactive manner the roles of a wide range of organizations in addressing specific health issues and developing system-wide action. This approach involves clarifying factors (independent and interactive) across a range of organizations in influencing current and emerging threats to population health which are often of complex causation. One example of this is the approach adopted in the UK Foresight report on obesity where the multiple elements of an obesogenic environment are clarified.[41] This involves addressing multiple levels of influence simultaneously. While this could be initiated by those with formal public health responsibility it is also likely to involve a wide range of other groups and organizations and is not limited to the activities arising from a formal public health infrastructure. The range of activities would be broad and the scope could be international or global. The challenge here would be to identify the organizations and groups which would need to work together as a system to address specific public health concerns.

37. Fourth is galvanising support and action across different sectors to provide a response to health inequalities and emerging hazards to the health of populations. An interim report on health inequalities within and between countries in the European Region[32] demonstrated major health inequalities most of which are avoidable and which arise from inequalities in the social determinants of health, social policies and programmes, and the quality of governance and action required across different sectors. This requires "advocating for health equity in the development plans, policies and actions of players in other sectors". While similar to the third approach, it is also concerned with generic issues of governance and equity.

38. Arguably, an effective public health system incorporates all four elements, building on the core activities implied by the first approach but drawing on the others as appropriate. These elements should be reflected in research, workforce development, and training. The strength of a public health system can then be gauged by the extent to which relevant groups work effectively together on specific issues, that is, by its flexibility and relevance, rather than as a static, comprehensive or generic list of various groups and organizations with an impact on health. Its strength will vary according to the complexity of topics and in relation to prevailing political and cultural values.

39. As described above, there are very substantial overlaps between notions of public health, the health system as defined in the Tallinn Charter, and the narrower healthcare system. For example, many core public health activities such as immunisation, health promotion and screening are primarily delivered through a healthcare system; public health practitioners may be located within them and healthcare practitioners may also double as public health practitioners. Data for public health operations may also be generated and coordinated through healthcare systems. Both public health and health systems may be narrowly defined in practice with the former largely associated with descriptive statistics, immunisation and vaccination and infectious disease control, and the latter with healthcare. This corresponds with a lack of attention to preventing non-communicable diseases, reducing inequalities in health or promoting health. As one example, a government interviewee in a self-assessment report on EPHOs expressed the situation as follows:

> Public health is considered as SanEpi services only, and that the only public health structure that we have is State Hygiene and Anti-epidemic Inspectorate. I think this is not right. In fact there is a problem with the perception, definition and functions of public health. The public health structure cannot be limited to inspection. It should be broader. I think we have problems with the perception of public health at all levels, from higher to lower.

40. While broad definitions, such as those adopted by WHO for health and for health systems, are aspirational and forward looking, it is nevertheless likely that most health systems remain largely associated with, and have their origins in, healthcare systems, which, unlike public health systems, have relatively clear organizational boundaries, are familiar to most people and are highly visible and valued. Many organizations (local authorities, for example) would be unlikely to classify themselves as forming part of a "health system". By subsuming public health systems within health systems the range and scope of public health activities may be unintentionally narrowed. A healthcare system is typically focused on "identifying and repairing health problems arising from past exposures"[28] and does not focus on the future and intersectoral orientation of public health. More fundamentally, definitions of public health imply collective action often carried out by public bodies. Arguably, as demonstrated in the four approaches to public health systems outlined above, one of the main challenges for public health practitioners and advocates for public health is to engage those organizations and groups whose primary interest may not be health-related and which would therefore fall outside health systems as defined above. At the same time, integration between public health practice and health care is still fragmentary, requiring more fluid linkages to foster health promotion and disease prevention within the traditional boundaries of the healthcare system.

41. The health system may be conceptualized as one of the channels for the "organized efforts of society" in terms of public health and health improvement (see Figure 1, below).

42. The health system is shown as the darker circles in each platform in the figure, and includes institutions and organizations with a health mandate, the resources dedicated to health, and the services delivered to promote, protect and restore health. Governance for

health involves orchestrating and aligning the many and several efforts from the different sectors of the society in order to maximize health gain.

Fig. 1: Boundaries of the health system

Conceptual Framework of the boundaries of Health System and Public Health
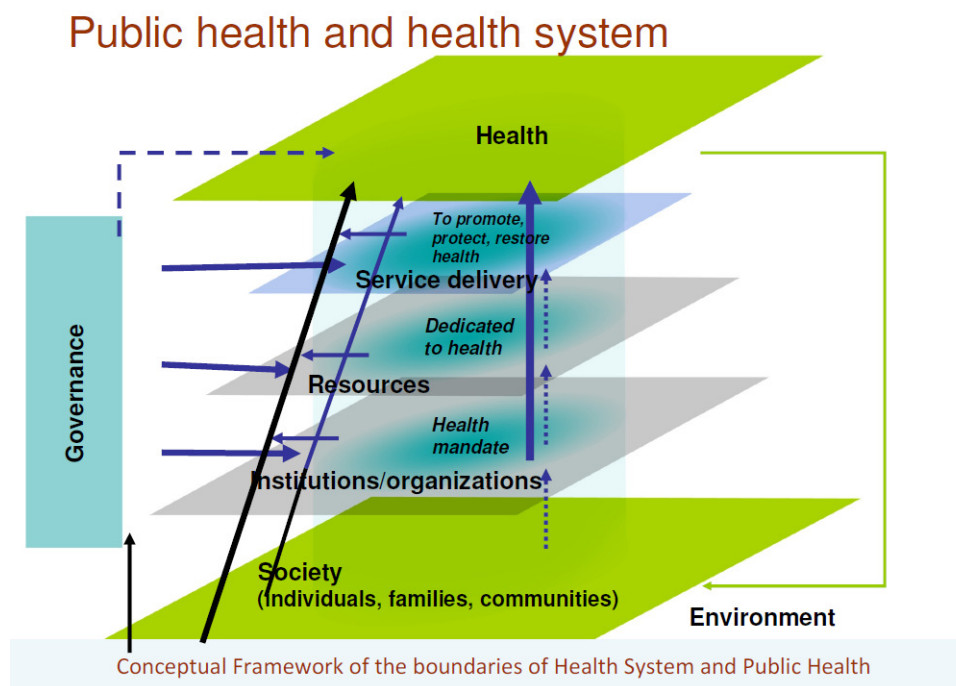
43. In Figure 1, public health is conceptualized as a broad societal function, involving every layer represented. Public health includes organizations, resources and services from the health system, but also from other sectors of society, constrained only by the boundaries of society's "organized efforts". There is also a myriad of other societal activities which have an influence on health, but which cannot be said to form part of the "organized efforts" of society.

44. The health of populations is generated by society as a whole and influenced by a broad range of policy areas as well as by the activities of the health system. Figure 2, below, illustrates how public health services span the health generating activities of both the 'non-health' system and of the health system, playing an important role in each.

Fig. 2: Boundaries of public health competencies and responsibilities
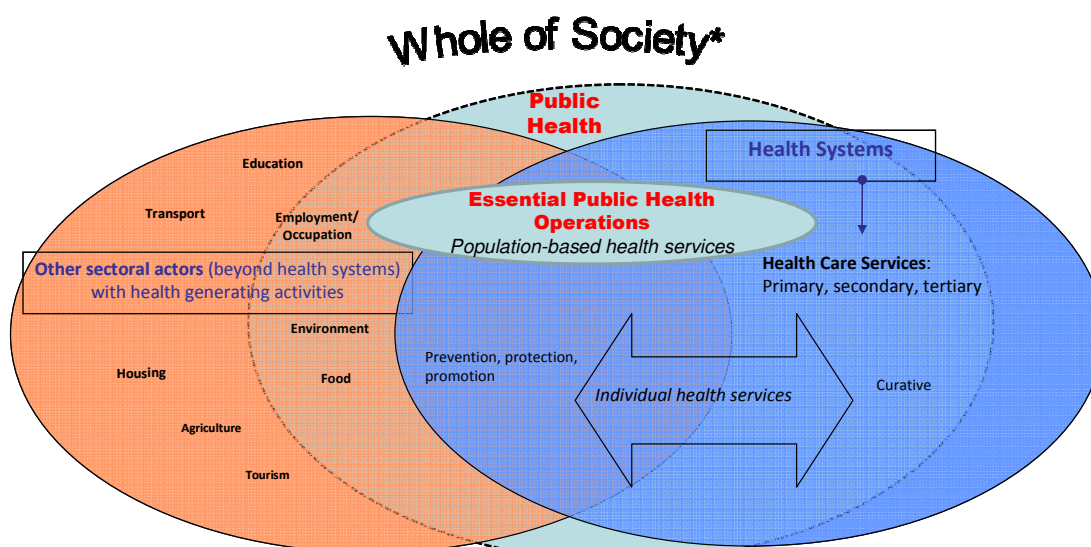
* Link to Health 2020, its governance, the whole of government and the whole of society approach

45. The wide range of policies which influence health underlines the importance of committed intersectoral action as part of a stewardship role.

Governance and the health of the population

46. Approaches to governance clearly influence the health of the population. Current public health challenges, including the persistence and worsening of health inequalities within and across countries, have led to an increased emphasis on governance principles and arrangements and their emergence as a separate focus and area of study. As part of the development of Health2020, the European Regional Office commissioned a study on "Governance for Health in the 21st Century",[42] to contribute both to Health2020 and the strengthening of public health infrastructure, capacity and practices. In this section, we identify how different approaches to governance relate to population health and the public health function.

47. Governance, a notoriously slippery term, may be associated with a range of underlying principles, such as accountability, transparency and participation; with governance arrangements, including allocating authority, ensuring accountability and monitoring performance; and with different modes (often characterised as hierarchies, networks or markets).[43] Value-neutral approaches to governance have been overlaid with principles of "good governance" and the values that underpin and shape governance arrangements. Although normative approaches to governance are contested, principles and processes of good governance have been considered in relation to nations (through the World Bank, World Wide Indicators Governance Project), public bodies,[44] the English NHS[45] and reflected in

standards for conduct in public life.[46] The Commission on Social Determinants of Health[31] considered the reduction of inequity in health as lying at the heart of governance.

48. The governance landscape is complex and governance arrangements can be interrogated in relation to the health of the population, the public health function, and public health system(s), in the following ways:

- How do approaches to governance influence the health of the population? This might include questions over the impact of: underlying values and principles, such as equity and social justice; modes of governance (to include the extent of networked approaches and the balance across hierarchical and networked modes of governance); approaches to participatory governance; or governance processes (related to accountability and monitoring, legal frameworks, and incentive structures). Governance arrangements could include the legal framework for protecting population health as part of the stewardship role of government. These arrangements lie outside the direct influence of the public health function although they may be influenced by it.
- How is a concern with population health reflected in governance arrangements at national, regional or local levels?
- Are health ministries empowered at the national level to take part in arrangements which affect health across sectors (e.g. inter-ministerial panels)?
- How is a model of collective responsibility understood and then reflected in local governance arrangements and in the scope of local partnerships?
- How can health authorities exercise public health leadership while also engaging, and sharing ownership of programmes with, other societal actors?
- To what extent are regulations, standards, incentives, targets and performance management regimes aligned to a public health agenda?
- How is governance of the public health function arranged? For example, how is a local stewardship role defined and then operationalized through governance arrangements and prioritisation processes? How far is the systematic approach adopted, for example, in clinical governance applied to population health through the public health function? How much influence is exerted by the public health function on underlying principles of stewardship as reflected in national policy and the implementation of HiAP?
- How does multi-level governance affect the public health function and which activities are appropriate at which levels of authority? Is there clarity over what is to be achieved at each level of authority and coordination across them? Which areas are suitable for hierarchical models and regulatory instruments and which require flexible partnerships?
- How is a public health system understood and does this go beyond governance of the public health function?

49. While there is no single answer to these questions, they provide an indication of the parameters of a stewardship role, and of the accountability arrangements which arise from it. They also indicate the potential role of public health leadership both in clarifying the impact of existing governance arrangements on the extent to which the health of the population is prioritised and in injecting a concern with public health into current governance arrangements

across a wide range of policy areas which have an impact on health. The health of the population is, in part, a reflection of the extent to which government adopts a stewardship role and a whole of government responsibility for health. The stewardship role of the public health workforce can also be operationalized in relation to different aspects of governance and in relation to the four approaches to public health systems described above.

50. Research on specific governance arrangements such as the impact of targets and incentives on performance, the impact of market modes of governance on equity, or the problems and opportunities arising from multi-level governance are not reviewed here. There is evidence of a movement away from developing region-wide normative targets by WHO.[47] Shifts from a hierarchical to a market mode of governance have been associated with a decline in preventive programmes in post-communist regimes.[48]

51. However, a key premise is that multiple determinants must be addressed using cross-societal and "joined up" government approaches with the involvement of multiple sectors and stakeholders. Many public health problems are not amenable to a hierarchical approach but rely on effective networks and partnerships. Thus civic engagement and participatory governance have gained prominence, as was recognized originally in the Alma Ata declaration and in Health for All. In consequence, shared goals and increased coordination, participation, transparency and accountability become paramount. This implies that traditional leadership in health matters (e.g. through Ministry of Health advocacy for investments in the health system) must be complemented by an element of inspiration and engagement of other actors, sparking off a range of initiatives which may or may not be based in the Ministry of Health, but which are grounded in mutual values and objectives.

52. A number of studies have specifically focused on the impact of incentives and governance arrangements on prevention.[49,50] The stewardship role of government(s) and other authorities is key and the following sub-section discusses this in more detail.

Underlying values: governance and a stewardship role

53. Stewardship, in common with governance, is open to different interpretations and definitions. It may signify being entrusted with resources and responsibilities (as in financial stewardship); protection of the public interest by government; the stewardship function of health systems; or be associated with broader principles of "good governance", reflecting ethical concerns over the common good and health as a human right. It is increasingly argued that stewardship of the health of the population should be considered a hallmark of "good governance". The Nuffield Council on Bioethics[51] explored the implications of such a "stewardship model" and suggested an ethical framework for a "stewardship-guided state", developing an "intervention ladder" for considering the justification for different public health policies and instruments (ranging from eliminating choice to simple monitoring).

54. Better understanding of the complex interplay of the various determinants of health, in particular the role of economic and social factors and ways in which resources and influence are distributed across society, require new approaches to health governance. These approaches place a strong emphasis on the relationship between governance actions and resources for health and health outcomes. The challenge is to create new approaches to

governance that respond to these challenges at various structural levels, and incorporate a concern for health impacts into the policy development and implementation processes across all sectors and agencies. These issues are further developed in "Governance for Health in the 21st Century".[42]

55. Success in carrying out a stewardship role at national, regional or local levels of authority is influenced by the fit between stewardship as an underlying principle of governance and the governance arrangements which obtain in practice. There are, however, clear parallels between underlying principles influencing governance as a whole and the stewardship role of public health. Mackie[52] argues, for example, that while processes and action have tended to dominate public health discourse, values underpinning a socially just public health practiceare equality and mutuality.

56. Self-assessment of the public health function across countries demonstrates deficits in the governance of public health, including a lack of coordination and collaboration across agencies in relation to data collection, failure to act on social determinants of health and health inequalities, unclear decision-making processes, variable approaches to evaluation, and variation in the accessibility of preventive services. This underlines the close relationships between the status and role of the public health function, and the understanding and exercise of a stewardship role in relation to the health of the population by national government. Conversely, it can be considered part of the stewardship role of the public health function to promote stewardship at national level through providing relevant evidence, and surveillance.

57. Self-assessments put forward a number of potential avenues for strengthening the governance of public health including strong leadership; developing intersectoral expert committees with a strong coordinating, advocacy and consulting role in public health; agreement over a national strategy for public health, spanning relevant agencies; and a culture where public health is valued and prioritised and where there are clear routes for decision-making in relation to current and potential threats to public health.

58. However, it should be emphasised that approaches to stewardship are not fixed. For example, in an English context (there are different policy emphases in other parts of the UK), an emphasis on the impact of lifestyles on population health is reflected in a shift in the notions of stewardship from a top-down, collective approach to one based on individual choice. This is evident in the personalisation agenda in health and social care, interest in incentivising individual behaviour change through using "nudge" approaches,[53] and other techniques such as social marketing.

59. While tensions remain over the balance between individualised and collective approaches for the health of the current population, the health of future generations and issues of inter-generational health equity do not lend themselves to an individualised notion of stewardship. Moreover, a due diligence role in relation to future hazards, including the effects of policy, risks being neglected in an exclusive focus on lifestyle choice. A more transparent approach to the ethical framework underlying a stewardship model, including the balance to be adopted between state intervention and individual choice, would enable further debate on the nature of the stewardship role.

Complex systems and "wicked" problems

60. As noted earlier, many of the most pressing present and future policy challenges affecting public health involve dealing with complex problems. Examples of such problems are climate change, obesity, tobacco control, alcohol misuse, health inequalities. These problems – known as "wicked problems" – share many characteristics (see Box 1), including the following: they go beyond the capacity of any one organization fully to understand or respond to them, there is often disagreement about the causes of the problems, and lack of certainty about the best way to tackle them.[54] They are also often characterised by chronic policy failure. A good example here is the failure of successive governments in many countries to reduce health inequalities despite numerous efforts to do so.[55] Mackenbach concludes that reducing health inequalities is presently beyond our means. Health inequalities "are a stubborn phenomenon" and "getting policies delivered at the scale and intensity that are required to make a difference has proved to be very difficult". But even if they had been delivered as they should, he believes it is "uncertain whether they would have worked".

61. Mackenbach is not suggesting we give up and do nothing. Morally that would be unacceptable. But we do need a new and different approach which is where systems thinking can help. It is generally acknowledged that successfully tackling wicked problems requires innovative solutions which pose challenges to traditional rational, linear approaches to policy-making, problem-solving, and implementation.[56] Wicked problems are non-linear, unpredictable, and resistant to change with seemingly obvious solutions sometimes making a problem worse or having unintended consequences.

Box 1: Characteristics of wicked problems

> - Wicked problems are difficult to define clearly
> - Wicked problems have many interdependencies and are often multi-causal
> - Attempts to address wicked problems often lead to unforeseen consequences
> - Wicked problems are often not stable
> - Wicked problems usually have no clear solutions
> - Wicked problems are socially complex
> - Wicked problems hardly ever sit conveniently within boundaries or responsibility of any one organization
> - Wicked problems involve changing behaviour
> - Some wicked problems are characterised by chronic policy failure

62. To tackle wicked problems with any prospect of success demands the adoption of systems thinking. A WHO report, prepared by the Alliance for Health Policy and Systems Research, notes that "systems thinking can provide a way forward for operating more successfully and effectively in complex, real-world settings. It can open powerful pathways to identifying and resolving health system challenges, and as such is a crucial ingredient for any health system strengthening effort".[57] Systems thinking involves much more than a reaction to present events and is in keeping with an approach to public health that focuses on future challenges

and which seeks to promote a deeper understanding of the linkages, relationships, interactions and behaviours among the components that comprise the entire system. Systems thinking also places high value on understanding context and its importance in terms of getting things done.

63. Addressing wicked problems adopting a systems approach has profound implications for the public health workforce and the skills and expertise needed in respect of capacity-building and leadership. A different mindset is required (see Box 2).

Box 2: Skills of system thinking

Usual approach	*Systems thinking approach*
Static thinking	Dynamic thinking
Systems-as-effect thinking	Systems-as-cause thinking
Tree-by-tree thinking	Forest thinking
Factors thinking	Operational thinking
Straight-line thinking	Loop thinking

Source: de Savigny and Adam, p.43[57]

64. We noted earlier the example of the UK government's Foresight report on obesity to illustrate a systems approach in respect of a major public health challenge. The Foresight team used a systems mapping approach to understand the biological, psychological, economic and social complexity of obesity, drawing on advice and insights from a wide group of experts from multiple disciplines. The mapping confirmed that obesity is determined by a complex multi-faceted system of determinants where no single influence dominates. To tackle obesity successfully requires a mix of policy responses at different levels (international, national, regional, local) rather than focusing on any single element of the system which is likely to fail.

Knowledge exchange

65. Linked to tackling wicked problems through adopting a systems approach are the notions of knowledge exchange and brokerage. They derive from the realisation that merely producing evidence or knowledge in the expectation that it will be adopted and acted upon is simplistic and naïve. A lesson from the evidence-based medicine movement is that the acquisition and application of knowledge are themselves complex, context-based activities that may be contested. Even where evidence exists, getting it into policy and practice poses significant challenges.[58,59,60] Knowledge exchange works towards evidence-informed policy and policy-informed research. Getting knowledge into practice requires new ways of co-producing and co-creating knowledge, with researchers and practitioners working closely

together throughout the research process from its initial conception, through its design to its completion and the dissemination of findings. Knowledge brokerage is an activity whose purpose is to improve the adoption of research findings and to spread and share learning from the application of knowledge. Knowledge exchange processes can occur at both individual and systemic or collective levels, and knowledge use at these levels depends on various processes including sense making, coalition building, advocacy and persuasion. Public health practitioners need to familiarise themselves with these developments and tools.

Essential Public Health Operations

66. The background to developing Essential Public Health Operations (EPHOs) for WHO European Region has been described in detail elsewhere.[48] The ten EPHOs (Annex 1) have also been used in a programme of self-assessment in the European Region. A review of public policy instruments for Public Health in the European Region[47] raised questions over the relative advantages of different types of instruments, issues of impact and evaluation, and "gaps in the toolbox of available instruments and strategies" given new challenges in public health. While some of these issues concern technical matters related to monitoring, measurement and data analysis, this concept paper focuses on the implications of definitions, systems and governance frameworks for public health operations. The following sub-sections summarise potential areas of development for EPHOs arising from this paper.

Governance arrangements

67. Current public health challenges have led to an increased emphasis on governance principles and arrangements. This applies across all levels of governance (including national and global federalism and global collective action)[61] and to public health systems (whether broadly or narrowly defined). Networked/intersectoral governance and participatory governance are of particular relevance to newer public health challenges. While "public health governance" may be used as a short-hand term to express the means by which society collectively seeks to assure population health and well being, there are different dimensions of public health governance which require separate analysis.

Decision-making tools and processes

68. Whether policy is translated into practice depends on the quality of decision-making and prioritisation processes, the nature of which is inevitably influenced by wider governance arrangements. Different forms of "evidence" come into play, along with different decision-support methods and systems for reaching final judgements. These include policy evaluation, cost-benefit analyses, option appraisals, impact assessments (environmental, social, health and health inequality) and judicial review.

69. Prioritisation is influenced by values (utilitarian or egalitarian), national and local priorities, available data and the degree of uncertainty over the relative contribution of any particular intervention to overall health improvement in the context of available resources. Prioritisation tools for investing in health and well being over the longer term require further development.[50] As mentioned earlier, such tools are under development in some countries.

Health outcomes and health inequalities

70. There are advantages in compiling easily accessible data on health outcomes and health inequalities which enable comparison across countries and help identify and publicise public health priorities and challenges. Such data have already been developed for EU member countries through the health inequality indicators project. The capacity to construct summaries of this kind varies and depends on there being an adequately developed data monitoring and surveillance infrastructure in place.

Redefining the stewardship role and the nature of public health leadership

71. Stewardship can be narrowly defined as oversight and responsible management or embrace a wider definition – ensuring the health and well being of the population.[62] Achieving a greater degree of alignment between the stewardship role of the state and the stewardship role of the public health function will require leadership skills and development.

Future orientation of the public health function

72. Although public health is by definition future orientated, there are differences in the extent to which the public health function is concerned with inter-generational equity, sustainability, and social equity. This is a consequence of how public health and the public health function are defined, the starting point for this concept paper.

73. EPHOs will continue to develop and evolve in line with changes in governance, developments in the public health evidence base, and new challenges for delivering the public heath function. Moreover, while the ten EPHOs provide a checklist of critical public health activities, countries' ability to deliver these core services will vary according to the resources available to them to discharge their public health function. Some countries will struggle to adequately carry out all EPHOs, while others will build upon broader public health principles to deliver additional services outside this portfolio. However, while governance arrangements for the public health function will differ across member states, broad governance principles, such as accountability and transparency, remain constant.

Towards an action framework

74. Developing an action framework for protecting and improving the health of populations is a complex task. The framework needs to reflect current health challenges and emerging hazards while at the same time ensuring that core activities of the public health function are maintained and resourced. Promoting population health, whether at national, regional or local levels, requires action to understand and address the impact on health of a wide range of social and economic determinants, while continuing to ensure comprehensive monitoring and enforcement systems for communicable disease control, environmental health (including food safety, water quality and sanitation), occupational health, health protection, integration with healthcare services and access to effective preventive health services.

75. Current challenges require that a framework for action is constantly reassessed and updated, while actions arising from the framework continue to affirm the importance of living

and working conditions, education, effective disease prevention and the needs of groups who are disadvantaged or socially excluded. At the same time, an action framework needs to incorporate plans for addressing future challenges to population health, including sustainability and the impact of current policies on inter-generational equity.

76. An action framework for protecting and promoting population health inevitably reaches far beyond effective delivery of the public health function in any single state. It involves states working in collaboration to promote "global public health values" and address problems arising from globalization, including the rapid spread of communicable disease and the impact of global finance. At a national level, it is influenced by the extent to which governments endorse a stewardship role in relation to the health of their populations, demonstrate commitment to human rights, social equity and social justice, and implement policies for sustainability and reducing inequity. At a policy level, it involves fostering intersectoral approaches, considering the impact on health and on health inequalities of a range of policies outside the health sector (singly and in combination), recognizing the potential impact of these policies on health, as reflected in *Health in all Policies* and ensuring effective governance arrangements and resources for core preventive activities.

77. While the broad-based and intersectoral dimensions of promoting health are well recognised, the relevance of this approach for the complex issue of tackling inequalities in health has become increasingly prominent. Health2020 addresses these key themes: governance arrangements at national, regional and local levels; implementing effective practice in addressing inequalities in health; developing intersectoral collaboration in relation to social and economic determinants of health; and investing in prevention.

78. There are clear overlaps between the stewardship roles of national government, of a health system and the effective delivery of the public health function. Population health is best promoted through congruence between them and through national government support of the stewardship role of the health system and of the public health function at national, regional and local levels. This may be reflected, for example, in the degree of influence of health ministers at a national policy level and that of public health practitioners at a local level, in investment in prevention of ill health, and in the data systems and workforce infrastructure supporting the public health function. It is also reflected in the extent to which public health practitioners exert effective advocacy in, and influence on, policy areas which lie outside the health system but which have an impact on health and health inequalities, such as housing, transport, education and welfare.

79. An action framework focuses on operational aspects of the public health function drawing on the ten EPHOs (Annex 1) developed by WHO Regional Office for Europe to reflect areas of core public health infrastructure and assist leaders of the public health function in evaluating their services and in identifying gaps. However, it also recognizes the wider strategic context and its influence on implementation strategies.

Conclusions

80. This concept paper argues that strategies for improving population health and strengthening the public health function will need to concentrate on governance arrangements, including the underlying principle of stewardship, develop flexible approaches to public health systems, and provide support for decision-making and resource allocation in relation to public health priorities that are planned and delivered in complex adaptive systems. Achieving clarity about these issues is a prerequisite to strengthening public health capacity through a range of tools and development opportunities which can also be incorporated within a framework for action and essential public health operations.

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Annex 1: Definitions of Essential Public Health Operations (EPHOs) and Services in Europe

EPHO 1: Surveillance of diseases and assessment of the population's health

Definition: This operation includes the establishment and operation of surveillance systems to monitor incidence and prevalence of diseases and health information systems to measure morbidity and population health indexes. Other elements of this operation comprise Community Health Diagnosis; data trend analysis; identification of gaps and inequalities in the health status of specific populations; identification of needs; and planning of data oriented interventions.

1.1 Surveillance in the area of civil registration[3] (births, deaths)
Surveillance in the area of civil registration should cover the following:
- Existence of a complete vital registration system
- Existence of data on cause of death and adjustment for mortality and morbidity data
- Evaluation and assessment of the quality and population coverage of collected data

1.2 Surveillance system and registries of diseases in areas of communicable diseases, noncommunicable diseases (NCDs) & food-borne diseases
Surveillance systems and disease registries should cover the following:
- Existence of a legal framework for the reporting and surveillance of infectious diseases
- Existence of a list of notifiable diseases by relevant area (infectious, NCD, food-borne)
- Existence of monitoring systems for microbiological and chemical contamination in the food chain
- Capacity to provide relevant data to international agencies (WHO, ECDC, EFSA, Eurostat etc.)

1.3 Ongoing surveys of health status and health behaviour, including health and nutrition surveys to address issues such as obesity and dietary intake
Surveys of health status and health behaviour should cover the following:
- Existing goals and definitions of population health items to study
- Existing definitions of sub-populations at risk, for example, people living in poverty, children, pregnant and lactating women and Roma
- Standard methodology for survey execution, including appropriate adaptations for study population.
- Intra/Inter SSII connection

1.4 Surveillance system and disease registries in the area of maternal and child health
Surveillance systems and disease registries should cover the following:
- Existence of a legal framework for data collection
- Existence of information systems on provision of mother and child health services (process, outputs and outcomes evaluation)

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[3] The civil registration system refers to governmental machinery set up in the country, state, province or any other territorial subdivision of the country for the purpose of recording of vital events related to the civil status of the population on a continuous basis, as provided by the laws and regulations of the country, state, province, etc. (Source Publication: Handbook of Vital Statistics Systems and Methods, Volume 1: Legal, Organizational and Technical Aspects, United Nations Studies in Methods, Glossary, Series F, No. 35, United Nations, New York 1991).

1.5 Surveillance system and registries of diseases in the area of environmental health

Surveillance systems and disease registries should cover the following:
- Surveillance of data with integration of environmental factors with population health
- Existence of specific guidelines for the establishment of appropriate surveillance mechanisms for human and environmental hazards and diseases introduced into local communities
- Existence of a legal framework and legislation integrated at a European level
- Availability of a national unit dealing with environmental epidemiology

1.6 Surveillance system and disease registries in the area of social and mental health

Surveillance systems and disease registries should cover the following:
- Existence of Mental Health registry with sufficient confidentiality safeguards
- Availability of indicators related to peer support networks or of any other type of operational social support and related activities

1.7 Surveillance system and registries of diseases in the areas of occupational health and injury surveillance

Surveillance systems and disease registries should cover the following:
- Existence of a national registry for injury surveillance (including domestic violence) from various sources: hospital information systems, emergency departments, death certificates, and accident reports
- Existence of definitions on compensable occupational injuries and diseases
- Existence of surveillance systems to monitor workers' health with the objective of accurately identifying and controlling occupational hazards. This includes:
    o Registry of exposure to major risks, occupational injuries and diseases, and
    o Capability of early detection and prompt reporting
- Existence of special surveillance on asbestos-related diseases, silicosis, and other high priority occupational diseases following WHO recommendations and ILO conventions

1.8. Data integration and analysis (including community health diagnosis) in order to identify population needs and risk groups and monitor progress towards health-related objectives (in areas 1.1-1.7)

Data integration and analysis should cover the following:
- Identification and establishment of agencies for evaluation and assessment of the quality of collected data
- Existence of protocols and standards for production, analysis and interpretation of data for comparison at national and international level
- Exchange of data within health registries and information sources among all national offices (including those outside the health sector), with sufficient safeguards for privacy and confidentiality
- Availability of software or ad-hoc computer programmes generating standardised analyses, tables and graphics
- Existence of hardware and infrastructure to support these activities
- Possibility of cross-sectional and trend analysis of data
- Possibility of data disaggregation by socio-economic markers, sex, ethnicity, levels of income, education and other relevant areas (e.g., in occupational health, disaggregation by industrial sector)

1.9. Publication of data in multiple formats for diverse audiences (in areas 1.1-1.7)

Publication of data should cover the following:
- Elaboration of periodic analyses and reports
- Data monitoring in various surveillance systems integrated and published periodically through various communications media
- Appropriate use of the mainstream media (radio, TV, newspapers) and social media (Facebook, Twitter, etc.)

EPHO 2: Identification of priority health problems and health hazards in the community

Definition of operation:
Monitoring, identifying and predicting priorities in biological, chemical and physical health risks in the workplace and the environment; risk assessment procedures and tools to measure environmental health risks; release of accessible information and issuance of public warnings; planning and activation of interventions aimed at minimizing health risks.

A.   Control of communicable disease
2.A.1   System and procedures for the detection and control of communicable disease outbreaks
System and procedures of control should include the following:
- Existence of protocols for GPs, nurses, physicians, etc. regarding the reporting of any unusual clusters or presentations of communicable diseases
- Adequacy of reporting level, including stage of outbreak at detection
- Risk assessment to identify vulnerable populations, considering factors such as poverty, low income, education, quality of housing, access to health care, etc.
- Existence of appropriate risk communication mechanisms, adapted to diverse audiences

2.A.2   System and procedures for outbreak investigation and cause identification
System and procedures of control should include the following:
- Outbreak investigation carried out by epidemiologic teams
- Case definition and case counts are applied

2.A.3   System and procedures for controlling zoonotic and vector-borne diseases
System and procedures of control should include the following:
- Control of food production systems 'from farm-to-fork'
- Capacity to conduct joint epidemiologic investigation with veterinary services
- Capacity to conduct joint epidemiologic research with environmental services
- Capacity to undertake a vector control and cooperation with veterinary services

2.A.4   Evaluate your system and procedures for the surveillance of nosocomial infections
System and procedures of control should include the following:
- Existence of epidemiologic teams in each general hospital
- Existence of protocols in each hospital to control and prevent nosocomial infections
- Existence of programmes and communication protocols implemented at hospital level
- Proper integration of communication protocols and programmes in the surveillance system of communicable diseases
- Availability of information from the data collected including possibility of cross-sectional and time-trend analyses

2.A.5   System and procedures for the surveillance of antibiotic resistance
System and procedures of control should include the following:
- Existence of hospital surveillance systems for antibiotic resistance and antibiotic usage
- Existence of community surveillance systems for antibiotic resistance and antibiotic usage
- Existence of surveillance systems for antibiotic resistance and antibiotic usage in food animals
- Existence of collaboration mechanisms between surveillance systems and other entities: pharmacies, veterinaries, etc.
- Integration of the different reports at a national level
- Possibility of cross-sectional and time-trend analyses

B.   Control of environmental health hazards

2.B.1   System with capacities, facilities and procedures for assessing actual or expected health impact due to environmental factors
System and procedures of control should include the following
- Existence of environmental epidemiology unit, or clear assignment of such tasks to dedicated PH staff
- Availability of professionals trained in methodology of environmental risk assessment procedures and models
- Effective collaboration with environmental agencies and other relevant parties, including exchange of environmental data
- Access to and use of modern methodology for dealing with environmental health determinants
- Capacity to undertake rigorous risk assessment procedures

2.B.2   Arrangements and procedures for identifying possible hazardous exposures
System and procedures of control should include the following
- Capacity to critically assess potential impacts of uncertain environmental determinants
- Use of a multidisciplinary approach that integrates different skills and fields of knowledge to identify hazardous exposures

2.B.3   System and procedures for occupational health assessment and control
System and procedures of control should include the following:
- Existence of an explicit law on occupational safety / prevention of occupational risks (or a prevention of occupational hazards Act) to encourage safe workplaces
- Legally established occupational health records (health check-ups tailored to job post)
- Existence of national strategy to prevent occupational diseases and injuries, developed according to national priorities
- Existence of regulations and basic occupational health standards, along with appropriate workplace health inspection, enforcement, and collaboration between the competent regulatory agencies according to specific national circumstances
- Targeting of high-risk economic sectors and of vulnerable working populations, such as younger and older workers, persons with disabilities and migrant workers, taking account of gender issues

2.B.4   System and procedures for air quality assessment and robustness of clean air standards
System and procedures of control should include the following:
- Specific air quality regulations for monitoring air quality and risk assessment
- Environmental surveillance networks and specific environmental laboratories
- Capacity for integration of different surveillance networks to identify cause-effect correlation to the components of air pollution
- Possibility of cross-sectional and time-trend analyses
- Cooperation/ interaction between public health and environmental agencies

2.B.5   System and procedures for water quality assessment and robustness of clean water standards
System and procedures of control should include the following:
- Promotion and implementation of holistic water safety plan, with special attention to the specific needs for support and guidance to small-scale water supply systems
- Sufficient preparation of water supply systems for extreme weather events, particularly droughts and floods, using appropriate guidance materials
- Social programmes to ensure access to the minimum amount of water needed to meet basic hygiene and health requirements for disadvantaged populations and for those with special needs

- Universal access to sanitation to protect human health and to preserve quality of the recipient environment
- Appropriate surveillance of endemic water-related diseases and technical capacity to detect outbreaks, develop and implement management plans
- Oversight of management practices for recreational water and the natural environment (including the marine environment)
- Possibility of cross-sectional and time-trend analyses

2.B.6 System and procedures for the identification of chemical and physical health hazards through analysis of surveillance data or epidemiologic research
System and procedures of control should include the following:
- Coordination of surveillance networks of chemical and physical health hazards
- Capacity to establish cause-effect correlations with outbreaks in the community

2.B.7 System and procedures for food safety risk assessment
System and procedures of control should include the following:
- Existence of specific regulations and circulars on food safety in various settings
- Existence of mechanisms for food safety risk assessment
- Functional separation of risk assessment and risk management

2.B.8 System and procedures for risk assessment regarding consumer goods, cosmetics and toys.
System and procedures of control should include the following:
- Existence of specific regulations/standards on consumer goods, cosmetics and toys
- Existence of a mechanism for risk assessment regarding consumer goods, cosmetics and toys

2.B.9 Progress towards implementation of the International Health Regulations (IHR)
System and procedures of control should include the following:
- Evaluation of national laws regarding IHR
- Dissemination of knowledge to the health sector and other sectors
- Dissemination of knowledge to other ministries
- Performance of intersectoral tabletop exercises
- Interaction with different stakeholders (existing agreements, other mechanisms for interaction within integrated national system to implement IHR)
- Definition of collaboration agreements with neighbouring countries

C. Laboratory support for investigation of health threats

2.C.1 Readily accessible laboratories capable of supporting research of public health problems, hazards, and emergencies
Laboratory support should include the following:
- Existence of a network of readily accessible laboratories that are in line with national and international standards
- Collaboration with other laboratories (private, academic institutions) for both research and during crises
- Appropriate communication between laboratories and epidemiologic units
- Integration of databases with the rest of SSII
- Existence of standards for lab control

2.C.2 Readily accessible laboratories capable of meeting routine diagnostic and surveillance needs

Laboratory support should include the following:

- Existence of a network of readily accessible laboratories in line with national and international standards
- Adaptation of the infrastructure to the volume of samples over time
- Capacity to control and validate results at national level
- Collaboration with other laboratories (private, academic institutions) for routine diagnostic and surveillance needs
- Appropriate communication between laboratories and epidemiologic units, including other sectors such as environment and veterinary fields
- Integration of databases with the rest of SSII

2.C.3 Ability to confirm that laboratories comply with regulations and standards through credentialing and licensing agencies

LaboratorysSupport should include the following:

- Existence of specific regulations on standards for laboratory quality control
- Availability of mechanisms related to supervision/inspection of standards for laboratory quality control
- Mechanisms for certification and recertification
- Effective coordination of the national reference laboratory with international reference laboratories

2.C.4 Ability to address the handling of laboratory samples through guidelines or protocols

Laboratory support should include the following

- Existence of specific regulations on guidelines, protocols or standards to address the handling of laboratory samples, including procedures for storing, collecting, labelling, transporting, and delivering laboratory samples, and for determining the chain of custody regarding the handling of these samples
- Availability of mechanisms to ensure the fulfilment of the above guidelines or standards for handling of laboratory samples

2.C.5 Adequacy of the public health laboratory system and its capability to conduct rapid screening and high volume testing for routine diagnostic and surveillance needs

Laboratory support should include the following:

- Possibility of adapting to international standardisations: ISO 17000
- Availability of PNT (standard work procedure)
- Performance of intra- and inter-laboratory reviews

2.C.6 Capacity to produce timely and accurate laboratory results for diagnosis and research of public health threats

Laboratory support should include the following:

- Existence of the necessary laboratory infrastructure to produce results for diagnostic and investigative public health concerns
- Availability of mechanisms for inspecting the fulfilment of the protocols to produce results for diagnostic and investigative public health concerns

EPHO 3: Preparedness and planning for public health emergencies

Definition of operation:

Preparedness for management of emergency events, including formulation of suitable action plans; development of systems for data collection, control and prevention of morbidity; and application of an integrative and cooperative approach with various authorities involved in management.

3.1 Ability to define and describe public health disasters and emergencies that might trigger implementation of the emergency response plan in the following areas

Preparedness for management of emergency events should include the following:

- Existence of specific preparedness guidelines for emergency response in the relevant area (i.e. natural disasters, communicable disease outbreaks, chemical hazards, radiological hazards and bio-terrorism)
- Capacity to foresee the different factors that might trigger this type of emergency
- Ability to anticipate the population at risk and its requirements
- Systematic assessment of the available means of action
- Effectiveness of intersectoral collaboration and cooperation/interaction
- Existence of information systems including intra-national and international warning networks

3.2 Development of a plan that defines organizational responsibilities, establishes communication and information networks, and clearly outlines alert and evacuation protocols.

Preparedness for management of emergency events should include the following:

- Integration of planning for all the above potential emergency situations (in 3.1)
- Existence of a general and well-founded plan, easily available and pragmatic, that defines organizational responsibilities, communication algorithms and information networks
- Definition of emergency plans based on previous analysis of possible risk factors as well as requirements associated with these risk factors
- Consideration of requirements for plan implementation
- Development of emergency plan in collaboration with all other agents involved (not only medical/public health dimension, but also social, economic, occupational, environmental, and defence dimensions)

3.3 Periodic assessment of the capacity for rapid response, including testing of the emergency plan through tabletop exercises and large-scale drills.

Preparedness for management of emergency events should include the following:

- Systematic mechanisms for capacity response assessment
- Tabletop exercises and drills under ideal conditions
- Periodic reports on results of the drills or practical exercises to identify processes or steps of the plan that need to be amended

3.4 Development of written epidemiologic case investigation protocols for immediate investigation.

Preparedness and planning for public health should include the following:

- Assessment of appropriateness of procedures for GPs, nurses, physicians, veterinarians etc. regarding:
  - The reporting of any unusual event of communicable diseases, including zoonotic
  - Immediate investigation of relevant area (i.e. environmental health hazards, chemical, radiological and biological agent threats, large-scale disasters)
- Assessment of the reporting level in the country

3.5 Effectiveness of the evaluation of past incidents and identification of opportunities for improvement

Points to be considered:

- Stage of problem at time of detection
- Existence of reports detailing aspects that should be improved in the future

3.6 Maintenance of written protocols to implement a programme of source and contact tracing for communicable diseases or toxic exposures

Points to be considered:

- Capacity to keep written protocols accessible and dynamic
- Assessment of previous experiences regarding the availability and usefulness of the written reports

3.7   Maintenance of a roster of personnel with the technical expertise to respond to all natural and man-made emergencies

Points to be considered:

- Explicit assessment of the current level of preparation from professional teams and organizational response, identifying gaps and further needs
- Coordination of a network of experts and professionals in different types of public health emergencies

3.8   Implementation of the International Health Regulations (IHR) in the area of emergency planning

Preparedness for management of emergency events should include the following:

- Level of implementation of IHR in the area of emergency planning
- Existence of plan / programme and its implementation according to schedule
- Evaluation of national laws regarding IHR
- Performance of intersectoral tabletop exercises
- Definition of agreements with neighbouring countries for implementation of IHR

EPHO 4: Health protection operations (environmental, occupational, food safety and others)

Definition of operation:

Risk assessments and actions needed for environmental, occupational and food safety. Public health authorities supervise enforcement and control of activities with health implication.

This operation includes the institutional capacity to develop regulatory and enforcement mechanisms to protect public health and monitor compliance with accepted norms as well as the capacity to generate new laws and regulations aimed at improving public health and promoting healthy environments.

4.1   Technical capacity for risk assessment in the area of occupational health

Points to be considered:

- Assessment and management of health risks at the workplace performed based on clear definition of essential interventions for prevention and control of mechanical, physical, chemical, biological and psychosocial risks in the working environment
- Existence of institutional capacities built for primary prevention of occupational hazards, diseases and injuries
- Technically qualified personnel to carry out control tasks
- Accessible data on risk factors from existing reliable data flows
- Access to relevant scientific research as part of a developing knowledge base
- Risk assessment exercises to formulate consistent policy recommendations

4.2   Technical capacity for risk assessment in the area of health-related behaviour

Technical capacity for risk assessments should include the following:

- Existence of health surveys and protocols to carry out risk assessments
- Existence of technical equipment to assess risk (e.g. breathalysers)
- Technically qualified personnel to carry out control tasks
- Accessible data on risk factors from existing reliable data flows
- Access to relevant scientific research as part of a developing knowledge base
- Risk assessment exercises to formulate consistent policy recommendations

4.3 Technical capacity for risk assessment in the area of healthcare facilities and programmes

Technical capacity for risk assessments should include the following:

- The existence of specific regulations on guidelines, protocols or standards to assess safety and quality of healthcare facilities and programmes
- Availability of mechanisms and capacities for inspecting the fulfilment of the above protocols or standards
- Technically qualified personnel to carry out control tasks
- Accessible data on risk factors from existing reliable data flows
- Access to relevant scientific research as part of a developing knowledge base
- Risk assessment exercises to formulate consistent policy recommendations

4.4 Inspection, monitoring and enforcement of laws and regulations by public health authorities

Enforcement of laws and regulations by public health authorities should include the following:

- Transposition of international regulations to national legislation
- Rapid introduction of necessary legal changes and new requirements in accordance with changes occurring at a social level
- Existence of standards and protocols for inspection
- Availability of resources for enforcement of laws and regulations

4.5 Cooperation between the Ministry of Health and other ministries for law enforcement in issues related to public health

Cooperation for law enforcement should include the following:

- Interaction between the various authorities and administrations at different levels
- The existence of government mechanisms to facilitate cooperation and communication/interaction between administrations, for example, through collaborative agreements, mixed committees, information systems of shared operations, shared legal regulations, joint protocols, etc.
  - i) Ministry of Environment
  - ii) Ministry of Agriculture
  - iii) Ministry of Fisheries
  - iv) Ministry of Labour
  - v) Ministry of Education
  - vi) Ministry of Science
  - vii) Ministry of Interior
  - viii) Ministry of Defence
  - ix) Ministry of Justice
  - x) Ministry of Transport
  - xi) Any other relevant ministries

EPHO 5: Disease prevention

Definition of operation:
Disease prevention is aimed at both communicable and noncommunicable diseases and has specific actions largely delivered to the individual. The term is sometimes used to complement health promotion and health protection operations. Although there is a frequent overlap between the content and strategies, disease prevention is defined separately.

Primary prevention services include vaccination of children, adults and the elderly as well as vaccination or post-exposure prophylaxis for persons exposed to a communicable disease. Primary prevention activities also include the provision of information on behavioural and medical health risks as well as consultation and measures to decrease them at the personal

and community level; the maintenance of systems and procedures for involving primary health care and specialised care in programmes on disease prevention; the production and purchasing of childhood and adult vaccines; the conservation of reserves of vaccines where appropriate; and the production and purchasing of nutritional and food supplementation.

Secondary prevention includes activities such as evidence-based screening programmes for early detection of diseases; maternal and child health programmes, including screening and prevention of congenital malformations; the production and purchasing of chemo-prophylactic agents; the production and purchasing of screening tests for the early detection of diseases, and capacity in relation to actual or potential needs.

Disease prevention in this context is considered to be action which usually emanates from the health sector, dealing with individuals and populations identified as exhibiting identifiable risk factors, often associated with different risk behaviours.

A.   Primary prevention

5.A.1   Vaccination programmes for the following groups
> i) Children
> ii) Adults
> iii) The elderly
> iv) Vaccination or post-exposure prophylaxis to persons exposed to a communicable disease

Points to be considered:
- Provision of clearly defined vaccination arrangements, including the necessary resources to ensure programme efficiency
- Existence of a vaccination calendar in accordance with the international organizations' recommendations (including the review and inclusion of new vaccinations in accordance with scientific/economic criteria)
- Existence of a vaccination registry
- Appropriate links with other SSII
- Performance of information campaigns (including for parents and education professionals in the case of child vaccination) on the need to immunise the population as a main barrier against the transmission of diseases
- Accessibility of vaccination services in the vaccination calendar
- Programmes run by professionals to inform about side effects

5.A.2   Provision of information on behavioural and medical health risks
Primary prevention should include the following:
- Availability of information regarding behavioural health risks in our population
- Explicit assessment of comprehensiveness of this available information
- Consultation mechanisms to evaluate how to proceed to lower the risk
- Usefulness/effectiveness of the available mechanisms
- Existence of operational proposals for future measures
- Capacity of public health services and personnel to communicate

5.A.3   Systems and procedures for involving primary health care and specialized care in programmes on disease prevention.
Primary prevention should include the following:
- Availability of information regarding the role of primary health care and specialized care in programmes on disease prevention
- Explicit assessment of level of involvement
- Existence of operational proposals for the future
- Financial or other incentives for the primary health care personnel to deliver individual preventive services

5.A.4 Adequacy of production and purchasing capacity for childhood and adult vaccines as well as iron, vitamins and food supplementation
Primary prevention should include the following:
- Availability of information regarding the capacity for the production and purchasing of products
- Explicit assessment of further provision needs
- Evaluation of the adequacy of current stock
- Existence of operational proposals for the future

5.A.5 Adequacy of production and purchasing capacity for iron, vitamins and food supplementation
- Availability of information regarding the capacity for the production and purchasing of products
- Explicit assessment of further provision needs
- Evaluation of the adequacy of current stock
- Existence of operational proposals for the future

B.   Secondary prevention

5.B.1 Evidence-based screening programmes for early detection of diseases, including screening and prevention of congenital malformations
Secondary prevention should include the following:
- Legal framework
- Network: defining and providing accountability structures
- Application of international inclusion criteria of the potential target pathologies in screening programmes
- Structural and budgetary feasibility and ability to deal quickly and effectively with the detected cases
- Definition of target populations for the programmes in line with the international inclusion criteria for screening
- Adaptation of screening programmes to international recommendations
- Continuous assessment and evaluation of current programmes

5.B.2 Adequacy of production and purchasing capacity for screening tests
Secondary prevention should include the following:
- Availability of information regarding the capacity for the production and purchasing of screening tests for the early detection of diseases
- Explicit assessment of further provision needs (comparison of current capacity in relation to actual or potential needs)
- Existence of operational proposals for future needs

EPHO 6: Health promotion

Definition of operation:
Health promotion is the process of enabling people to increase control over their health and its determinants and thereby improve it. It addresses determinants for both communicable and noncommunicable diseases and includes the following activities:
- The promotion of changes in lifestyle, practices and environmental conditions to facilitate the development of a "culture of health" among individuals and the community
- Educational and social communication activities aimed at promoting healthy conditions, lifestyles, behaviour and environments
- Reorientation of health services to develop care models that encourage health promotion
- Intersectoral partnerships for more effective health promotion activities

- Assessment of the impact of public policies on health
- Risk communication

The means of achieving this include conducting health promotion activities for the community-at-large or for populations at increased risk of negative health outcomes, in areas such as sexual health, mental health, health behaviour related to HIV, drug abuse control, tobacco control, alcohol control, physical activity, obesity prevention, nutrition, food safety, work-related health hazards, injury prevention, occupational and environmental health.
The broader role of health promotion includes advising policy makers on health risks, health status and health needs as well as designing strategies for different settings. It also includes taking account of the determinants of health, in particular the social or socio-economic determinants that cause ill health.

A. Health promotion activities for the community-at-large or for populations at increased risk of negative health outcomes

6.A.1 Activities and services directed at healthy diet & nutrition, physical activity and obesity prevention and control, in the following areas:
Health promotion should include the following:
- Integration of dietary and physical activity advice into primary health care services
- Integration of different promotion strategies around healthy nutrition and physical activity
- Community participation in planning and implementation
- The involvement of the food industry through agreements promoting improved diet, food labelling and supporting nutrition projects
- Continuous monitoring and evaluation of health promotion projects
- Government support to networks of NGO for health promotion as an outreach activity
- Capacity of services to address the whole population, taking account of issues such as poverty ethnicity, sex, other socio-economic factors and groups at particular risk

6.A.2 Activities and services directed at tobacco control
Health promotion should include the following:
- Existence of a legal framework (regulations against smoking in public places, availability to young people, media publicity, selling price, etc.)
- Enforcement of laws and regulations on smoking, for example in public places
- Annual monitoring of smoking prevalence among the population
- Comprehensiveness of plans for dealing with the problem (economic, political, social, cultural, environmental, healthcare and ethical) in line with FCTC implementation
- Elaboration of specific health education materials to different groups
- Evaluation and assessment of the implementation of the programmes
- Comprehensiveness of approach, taking account of issues such as poverty, ethnicity, sex, other socio-economic factors and groups at particular risk

6.A.3 Activities and services directed at alcohol control
Points to be considered:
- Existence of a legal frameworks regulating alcohol purchase or consumption
- Enforcement of such legal frameworks
- Evaluation of the effectiveness of such frameworks in achieving public health aims
- Existence of a list of activities or services directed towards alcohol control
- Multidisciplinary and intersectoral/interactive nature of activities
- Annual planning of programmes based on a periodic survey that deals with knowledge, attitudes and environment of the target populations
- Continuous evaluation of activities and services

- Comprehensiveness of approach, taking account of issues such as poverty, ethnicity, sex, other socio-economic factors and groups at particular risk

6.A.4 Activities and services directed at drug abuse prevention and control
Health promotion should include the following:
- Existence of comprehensive plans for dealing with the problem: economic, political, social, educational, cultural, environmental, healthcare and ethical
- Community participation, NGOs and community leaders
- Suitable orientation of the healthcare services (which allow for the necessary support treatments and arrangements/deinstitutionalization/decentralization)
- Involvement of social services
- Evaluation and assessment of programme implementation
- Comprehensiveness of approach, taking account of issues such as poverty, ethnicity, sex, other socio-economic factors and groups at particular risk

6.A.5 Prevention of infectious diseases (e.g., HIV, TB) related to health behaviours
Health promotion should include the following:
- Comprehensive plans for dealing with the relevant problem: economic, political, social, educational, cultural, environmental, healthcare and ethical
- Involvement of different disciplines in an intersectoral /interactive approach
- Upgrading community participation (development of community attitudes: family, education system).
- Emphasis on development of healthy (safe) attitudes and not only knowledge about them
- Continuous evaluation of the programme implementation (including in planning processes)
- Capacity of services to address the whole population, taking account of issues such as poverty, ethnicity, sex, other socio-economic factors and groups at particular risk

6.A.6 Activities and services directed at sexual/reproductive health
Health promotion should include the following:
- Existence of a list of activities or services directed at sexual health
- Multidisciplinary and intersectoral/interactive nature of activities
- Annual planning of programmes based on a periodic survey that deals with knowledge, attitudes and environment of the target populations
- Continuous evaluation of the programme implementation (including in planning processes)
- Capacity of services to address the whole population, taking account of issues such as poverty, ethnicity, sex, other socio-economic factors and groups at particular risk
- Capacity of public health and primary health services to deal with family violence

6.A.7 Prevention and control of occupational and work-related health hazards, including workplace health promotion
Health promotion should include the following:
- Existence of a list of activities or services directed at occupational health
- Sound legal infrastructure as a basis for prevention and control
- Annual planning of services and activities according to surveys that deals with knowledge, attitudes and environment of the target populations
- Existence of a national action plan on workers' health in collaboration in line with the Promotional Framework for Occupational Safety and Health Convention, 2006

6.A.8 Activities and services directed at environmental health
Health promotion should include the following:
- Existence of a comprehensive list of activities or services directed at environmental health regardless of which authority oversees activities
- Multidisciplinary and intersectoral/interactive nature of activities

- Planning of programmes (at least every three years) based on a periodic survey that deals with knowledge, attitudes and environment of the target populations
- Continuous evaluation of the programme implementation (including in planning processes)

6.A.9   Mental health activities and services
Health promotion should include the following:
- Existence of a comprehensive list of activities or services directed at mental health
- Multidisciplinary and intersectoral/interactive nature of activities
- Annual planning of programmes based on a periodic survey that deals with knowledge, attitudes and environment of the target populations
- Continuous evaluation of the programme implementation (including in planning processes)
- Capacity of services to address the whole population, taking account of issues such as poverty, ethnicity, sex, other socio-economic factors and groups at particular risk
- Community oriented services/decentralization, deinstitutionalization of arrangements

6.A.10   Dental hygiene education and oral health activities and services
Health promotion should include the following:
- Continuous surveillance of oral health
- Existence and promotion of educational programmes on dental hygiene in schools
- Integration of strategies to promote dental hygiene and other related strategies, such as healthy nutrition
- Monitoring and evaluation of oral health programme, including outcomes
- Accessibility and affordability of services, taking into account issues such as poverty, ethnicity, sex, other socio-economic factors and groups at particular risk

B.   Capacity of intersectoral action

6.B.1   Policies, strategies and interventions aimed at making healthy choices easy
Health promotion should include the following:
- Ability to address social determinants of healthy choices, as for example, the availability, accessibility and affordability of safe and fresh food or green spaces for physical activity in urban areas
- Periodic assessment of programmes in health promotion and disease prevention
- Application of information on the state of health of the community, sub-national and national to needs-based health policies
- Ability of policy papers to communicate information on health risks, population health status, and health at sub-national and national levels

6.B.2   Structures, mechanisms and processes to enable intersectoral action
Health promotion should include the following:
- Existence of a legal basis for health promotion such as regulations or intersectoral committees
- Systematic implementation of health impact assessment
- Focus on broader determinants of health in other policy areas
- Civil society participation
- Ability to implement policies – through legislation, financing, research
- Existence of systematic follow-up and evaluation of activities
- Administrative capacity for health promotion

6.B.3   Intersectoral activities, including the leadership role of the Ministry of Health, in ensuring a health in all policies approach, regarding the following ministries
(i) Ministry of Education
(ii) Ministries of Transport, Environment
(iii) Ministry of Industry
(iv) Ministry of Labour
(v) Other relevant Ministries

Health Promotion should include the following
- Communication between ministries, including the existence of liaison staff or special protocols
- Existence of a strategy led by the Ministry of Health to engage other sectors
- Elaboration of specific health education materials to different age groups and/or groups with particular ethnic or social characteristics
- Continuous monitoring and evaluation of health promotion projects

EPHO 7: Assuring a competent public health and personal health care workforce

Definition of operation:
Investment in and development of a public health workforce is an essential prerequisite for adequate delivery and implementation of public health services and activities. Human resources constitute the most important resource in delivering PHS. This operation includes the education, training, development and evaluation of the public health workforce, to efficiently address priority public health problems and to adequately evaluate public health activities.

Training does not stop at the university level. There is a need for continuous in-service training in economics, bioethics, management of human resources and leadership in order to implement and improve the quality of PHS and address new challenges in public health.
The licensing procedures of public health professionals establish the requirements of the future workforce concerning relevant public health training and experience.

A.   Human resources planning

7.A.1   Planning for public health human resources
Human resources planning should include the following:
- Existence of national planning of public health human resources
- Consideration of tools and methods used in such planning
- Definition of Human Resources Plan with a long-term/anticipatory nature, taking into account demographic projections, regional considerations and future health care needs

7.A.2   Effectiveness of human resources planning
Points to be considered:
- Decentralisation in human resources planning
- Division of responsibilities between national and sub-national planning (in federal or decentralised countries)
- Division of responsibilities between the centre and districts in planning in non-federal countries
- Capacity to evaluate appropriateness and effectiveness of human resources planning in the last decade taking into account the needs of the different regions and the imbalance in distribution of human resources

7.A.3   Current provision of human resources for public health
Points to be considered:
- Availability of public health workforce
- Distribution of human resources according to population health needs
- Allocation of the potential work force through a multi-disciplinary approach
- Annual evaluation of health workforce distribution

B.   Public health workforce standards

7.B.1 Mechanisms for maintaining public health workforce standards (education, certification, and licenses)
Points to consider:
- Projection of future health workforce needs in terms of quantity and quality
- Appropriate education level of public health workers and managers
- Definition of appropriate standards for evaluation of quality of population-based and personal health services using data from all levels of the health system

7.B.2 Mechanisms for evaluating the public health workforce, including continuous quality improvement, continuing education and training programmes
Standards should include the following:
- Periodic assessment of teaching programmes
- Existence of performance evaluation system or systems for continuing education courses to ensure appropriate development of human resources for public health
- Existence of performance evaluation system or systems for continuous quality improvement
- Dissemination of results from the evaluation of continuing education and graduate training programmes
- Definition of incentives to improve the quality of the public health workforce

7.B.3 Systems for improving teamwork abilities and communication skills
Standards should include the following:
- Establishment of continuing education courses or in-service training for improving teamwork abilities and communication skills
- Continuous evaluation of the courses, and in-service training by feedback questionnaire of the participants

7.B.4 System for supporting capacity development of intersectoral teams and professionals from across policy areas
Standards should include the following:
- Integration of a multidisciplinary approach in the public health system, across different profiles
- Inclusion of intersectoral teams and professionals in continuing educational courses or in-service training
- Existence of mechanisms for the evaluation of the capacity of intersectoral teams after each public health event

C.   Education and accreditation

7.C.1 Structure of training in public health management
Education and accreditation should include the following:
- Availability and quality of training in non-medical specialities related to health care
- Adequacy of training to the public health services needs
- Exposure to public health issues in general and on country level in particular as part of the training in public health management
- Inclusion of evidence-based SDH in future public health education programmes and interventions

7.C.2 Undergraduate programmes in health professions (medicine, veterinary medicine, nursing, pharmacy, dentistry) relevant to public health
Education and accreditation should include the following:
- Availability of the different health disciplines (medicine, veterinary medicine, nursing, pharmacy, dentistry) within the public health education programme

- Incorporation of public health issues (e.g. epidemiology and population approaches) within the medical curriculum
- Existence of public health experts in the undergraduate programmes
- Cooperation or joint ventures between the different schools of health professionals and school/s of public health
- Availability of post-graduate courses or programmes for veterinary public health

7.C.3 Adequacy of schools of public health
Education and accreditation should include the following:
- Availability of school/schools of public health in the country
- Existence of collaborative agreements between the different academic authorities in public health
- Capacity of schools of public health to fulfil the need for training the future public health workforce
- Existence of mechanisms which facilitate the exchange of educational, occupational and research experiences within the same area of other European countries (grants, permits for placements, etc)
- Existence of disciplines of environmental health and occupational health in line with the relevant international standards of accreditation

7.C.4 Master of Public Health Programmes
Education and accreditation should include the following:
- Availability of Master of Public Health programmes in the national university system
- Design of the programme in order to adequately prepare for professional and research work within public health
- Continuous review and enhancement process of the programmes in order to adapt to current and future challenges of PHS
- Capacity to adapt to the unified criteria of European postgraduate studies

7.C.5 Master of Health Services administration and/or Policy, Leadership, or Management
Education and accreditation should include the following:
- Availability of a Master of Public Health Public programme that provides studies in Public Health Services administration and/or Policy, Leadership, or Management
- Adaptation of the programme to the needs of the PHS or the public health sector
- The design of this programme in relation to undertaking professional work in public health management
- Adaptation to the unification criteria of European postgraduate studies

7.C.6 Other relevant academic programmes related to health protection, promotion or disease prevention (specify).
Education and accreditation should include the following:
- Legal framework for professionals' continuous education in health protection, promotion or disease prevention
- Availability of programmes related to health protection, promotion or disease prevention
- Definition and implementation of continuous educational programmes for multi-disciplinary professionals working in PHS
- The adequacy of these programmes to address the knowledge, skills and practices required of professionals in order to upgrade and to extend the various areas of action

7.C.7 Quality Control and Accreditation programmes
Education and accreditation should include the following:
- Establishment of evaluation and accreditation processes for undergraduate and postgraduate programmes
- The coordination and collaboration of training and accreditation programmes with educational institutions in order to develop basic public health curricula for different levels of public health
- Adaptation of the educational programmes to the existing legal framework at both the national and European levels (the Bologna Process)

- Periodic assessment of teaching programmes and continuing education courses to ensure that they contribute to developing human resources for public health

EPHO 8: Core governance, financing and quality assurance for Public Health

Definition of operation:

Policy development is a process that informs decision-making on issues related to public health. It is a strategic planning process that involves all the internal and external stakeholders and defines the vision, mission, measurable health goals and public health activities for national, regional and local levels. Moreover, in the last decade, it has become more important to assess the implication of international health developments on national health status.

Financing is concerned with the mobilization, accumulation and allocation of money to cover population health needs, individually and collectively. The purpose of health financing is to make funding available, as well as to set the right financial incentives to providers, to ensure that all individuals have access to effective public health and personal health care.

Quality assurance deals with developing standards for ensuring the quality of personal and community health services regarding disease prevention and health promotion and evaluation of the services based on these standards. Evaluations should identify weaknesses in governance and operation, resource provision and the service delivery. The conclusions of the evaluations should feed back into policy and management, organization, and provision of resources to improve service delivery.

A. Health Policy Planning and Implementation

8.A.1 Process of strategic planning in relation to public health services
National health policy should include the following:
- Existence of strategic planning process in relation of public health services
- Periodic nature of planning (once a year/two years/ three years)
- Leadership by the PHS, the Ministry of Health, or both
- Democratic participation among headquarters and the districts
- Revision of mission and activities of the PHS

8.A.2 Policy planning process at regional and local levels
Regional public health policy should include the following:
- Consideration of national policy papers in public health planning
- Consideration of data or information on population health status at the regional and local level
- Consideration of the views of the different stakeholders, including community leaders, in the planning process
- Existence of evaluation mechanisms of the planning process

8.A.3 Appropriateness & effectiveness of public health policy (health impact assessment)
National and regional health policy should include the following:
- Existence of a publication that establishes the national public health policy
- The national public health policy includes the activities of the PHS of the Ministry of health, and various activities concerning public health
- Translation of national public health policy into programmes and activities
- Existence of an evaluation process of the implementation of national public health policy
- Capacity to adapt the national public health policy to changing situations
- Technical capability of professionals to perform health impact assessment at regional level

- Integration of the health impact assessment in developmental plans and regional policies by intersectoral teams

8.A.4 System or programme for monitoring implementation of policy and programmes in public health or related areas.
Monitoring and evaluation of public health policies and programmes should include the following:
- Inclusion of indicators, standards and benchmarks in public health policies and programmes
- Existence of mechanisms for quality review and performance assessment as part of the evaluation process
- Systematic monitoring and evaluation of various policies and programmes
- Integration of the monitoring and evaluation results in the feedback mechanisms for current and future public health policies and programmes

8.A.5 Short, medium and long-term strategies to comply with an EU community health services system
Monitoring and evaluation of public health policies and programmes should include the following:
- Existence of systematic files identifying EU guidelines and standards
- Attempt to systematically identify gaps between current national situation and the EU guidelines and standards
- Existence of a written strategy to fill these gaps

8.A.6 Appropriateness and effectiveness of how the implications of international health developments are taken into account in public health planning (e.g. preparing for avian and pandemic Influenza, West Nile Fever and SARS).
National health policy should include the following:
- Availability of a national planning unit or ad-hoc committee, which evaluates and monitors the international developments and their health implications at national level
- The consideration of health implications emerging from abrupt events on public health planning.
- Existence of an intersectoral national public health plan to control avian influenza or pandemic influenza
- Appropriateness of a national plan for a pandemic event in the case of a real outbreak
- Compatibility of public health plans with the international health developments

8.A.7 Role of public health operations within the Ministry of Health
National health policy should include the following:
- Role of public health operations within the MoH and/or other agencies to provide technical assistance for drafting legislation, regulations, and ordinances
- Execution of public health operations which the MoH and/or other agencies assume directly
- Education or training of persons and entities obligated to comply with or to enforce laws and regulations designed to protect health
- The appropriate use of measurable health objectives and indicators by the MoH to evaluate services and activities in public health
- Supervision of governmental and non-governmental public health entities in order to ensure that essential public health services are provided

8.A.8 Appropriateness/effectiveness of any mechanisms or processes through which poverty, inequalities and the social determinants of health are taken into account in decision-making.
National health policy should include the following:
- Integration of SDH approach in the culture of the public health system (Ministry of Health and across other policy sectors)
- Existence of a national poverty reduction strategy paper (PRSP) or similar, which includes a health component

- Representation of professional or position papers or other mechanisms in health policy decision-making that ensure that broader determinants of health are incorporated in the process
- Existence of specific targets and indicators in the national public health policy that take into account the social determinant of health
- Identification of specific targets based on intersectoral strategies
- Use of intersectoral strategies as a basis for national and sub-national policies and programmes at regional and local levels

8.A.9 Comprehensiveness and effectiveness of public health and other health-related policy decisions, through a multidisciplinary and multisectoral approach

Intersectoral and interdisciplinary approach should include the following:
- Definition of public health strategies with the relevant stakeholders of the health sector and other sectors of the society
- Implementation of public health strategies with the participation of the health sector and other sectors of the society, at all levels
- Evaluation of the intersectoral links necessary to respond at all levels
- Systematic evaluation of organized action, indicating deficiencies for subsequent correction
- Consideration of diverse viewpoints in the strategies and interventions

B. Evaluation of quality and effectiveness of personal and community health services

8.B.1   Processes and mechanisms to define needs in personal and population health services from public health perspectives

Definition of needs should include the following:
- Existence of data sources for the definition of needs
- Definition of the portfolio of services included in the system
- Evidence of efficiency and effectiveness to incorporate new services
- Coordination of services throughout the care pathway
- Capacity of the available structure to cover the population's preventive needs in an efficient manner
- Accessibility and distribution of services (urban/rural, more/less affluent areas, regional disparities)
- Affordability of personal services to all groups

8.B.2 Processes and mechanisms to identify health service needs of populations that may encounter barriers to receiving health services

Definition of needs should include the following:
- Adequacy of health service needs identification for immigrants, ethnic minorities, and disadvantaged populations
- Existence of specific studies on these groups adapted to their characteristics
- Existence of alternative strategies to offer services that favour access
- Collaboration with several stakeholders, including NGOs, associations and social services

8.B.3 Comprehensiveness and effectiveness of procedures and practices designed to evaluate the delivery of personal and community public health services in the following areas of services

Assessment and evaluation of services should include the following:
- Assessments of coverage of accessible community health services
- Existence of databases, SSII
- Existence of studies on both the frequency and appropriateness of the Health System
- Existence of health care indicators
- Existence of social care indicators.

- Existence of socio-economic indicators

8.B.3 Processes and mechanisms for conducting an analysis of participation in preventive services

Assessment and evaluation of services should include the following:
- Adequacy of the analysis on the participation in preventive services for children, adolescents; adults and the elderly
- Adequacy of the gender-specific assessment of participation in the preventive services
- Capacity of the SSII to gather data on coverage, access to health services and programmes

8.B.4 Assessment and analysis regarding the integration of services in coherent community health services system

Assessment and evaluation of services should include the following:
- Existence of databases/records identifying duplications, fragmentation and lack of coherence when dealing with community health services
- Availability of secondary analyses of published information on issues related to coherence and integration when dealing with community health services
- Existence of surveys to identify professionals' opinion in order to foster coherence and integration of community health services

8.B.5 Adequacy of evaluation of the human resources' structure and financial support to community health services

Assessment and evaluation of services should include the following:
- Existence of legal framework to support community health services
- Existence of databases/records to identify specialised human resources in the community health services
- Existence of accounting records and financial analyses to identify the needs in the community health services

8.B.6 Implementation, control and quality assurance actions on health systems that supply personal and community health services

Application of evaluation findings should include the following:
- Quality management of the health services offered
- Management as far as processes, clinical guidelines, performance protocols, etc., are concerned
- Existence of research into services

8.B.7 Health Technology Assessment centres or programmes.

Application of evaluation findings should include the following:
- Assessment of the implemented healthcare technologies
- Existence of studies on successful practices in other scopes

C. Financing of Public Health Services

8.C.1 Ensure that financing mechanisms for public health services, including personal services with broad effects beyond the person receiving the intervention, are aligned with desired service delivery strategies

Financing for public health services should include the following:
- Identification of specific interventions associated with each population-based or personal service
- Efficient organization of services and financing
- Definition of incentives for providers to encourage appropriate service delivery
- Definition of incentives facing service users to encourage appropriate service use
- Ongoing monitoring and analyses to adjust financing arrangements as needed over time

8.C.2 Decisions on public financing for services, taking into consideration the extent to which its benefits are distributed in the population

Financing for public health services should include the following:

- For cost-effective population-based services (e.g. some food safety interventions) and personal services with benefits that extend far beyond the potential patient (e.g. TB control, HIV prevention interventions), comprehensive financing should be the goal

EPHO 9: Core communication for Public Health

Definition of operation:

Communication for public health is aimed at improving the health literacy and status of individuals and populations. It is the art and technique of informing, influencing, and motivating individuals, institutions, and public audiences about important health issues and determinants. Communication must also enhance capacities to access, understand and use information to reduce risk, prevent disease, promote health, navigate and utilize health services, advocate for health policies and enhance the wellbeing, quality of life and health of individuals within the community.

Health communication encompasses several areas including health journalism, entertainment, education, interpersonal communication, media advocacy, organizational communication, risk and crisis communication, social communication and social marketing. It can take many forms from mass, multi-media and interactive (including mobile and internet) communications to traditional and culture-specific communication, encompassing different channels such as interpersonal communication, mass, organizational, and small group media, including radio, TV, newspapers, blogs, message boards, podcasts, and video sharing, mobile phone messaging and online forums.

Public health communication offers the public a way to counter the active promotion of hazardous products and lifestyles; e.g. tobacco. It is a two-way information exchange activity which requires listening, intelligence gathering and learning about how people perceive and frame messages on health so that information can be transmitted in more accessible and persuasive formats. Public health communication is also about transparency so that the public can be aware of what is being said and done in their name.

9.1 Strategic and systematic nature of public health communication, developed with an understanding of the perceptions and needs of different audiences

Communication development should include the following:

- Existence of a detailed communication (and media) strategy that includes vision, aims, measurable objectives, responsibilities of various staff, clearance procedures and methods of evaluation
- Integration of strategy into overall organizational development plans
- Identification of designated communication staff (or department) with specialized training and skills to coordinate communication activities and work with media
- Existence of formative research procedures to gather intelligence on target audience perceptions and media reporting patterns
- Specific risk and crisis communication strategies

9.2 Dissemination to different audiences in formats and through channels which are accessible, understandable and usable.

Communication dissemination should include the following:

- Identification of target audiences and consideration of their health literacy capacity and behavioural patterns
- Existence of issue-related media dissemination plans

- Development of target-specific messages and use of target- specific communication channel(s)
- Creation and maintenance of communication platforms (e.g. web pages, press briefings, etc) that allow for the reliable and timely delivery of communications directly to audiences or indirectly through intermediaries
- Definition of communication agreements and links with other relevant agencies (at international, regional, or national levels) and activities (e.g. health promotion, social marketing, WHO health communication network)
- Capacity to adapt relevant communications from other agencies (e.g. WHO Regional Office for Europe) to national and local contexts
- Designation of appropriately trained staff to coordinate all the above
- Existence of a communication focal point with whom WHO/Europe can liaise to ensure coherence and dissemination of information, in both directions

9.3 Advocacy for the development and implementation of healthy policies and environments across all government sectors (health in all policies)

Communication and advocacy as a whole of government approach should include the following:
- Inclusion of health communication in the work programmes, priorities and agendas of all major government initiatives and budgets, as well as those of the health sector itself
- Analysis of relevant policy development processes in different sectors and agencies
- Consideration of the ways in which different policy makers and stakeholders in different agencies and sectors perceive health issues
- Consideration of how, where, and who makes health policy (primary advocacy targets) and what group(s) may influence decision making processes (secondary advocacy targets) media work
- Identification of messages that will make primary and secondary groups act
- Selection of appropriate advocacy platforms, channels and approaches; e.g. campaigns, lobbying, media advocacy, internet, etc.
- Existence of fora across different sectors of government (national and local), where health communication initiatives can be explored, monitored and implemented
- Support for press and media personnel across government to pool experience and good practice in health advocacy and communication, with the public as the beneficiary

9.4 Public health communication training and capacity development

Training and capacity development strategies should include:
- Existence of training in effective written and oral skills for communicating with different audiences on professional public health activities
- Existence of training for new social media and traditional media
- Existence of training for journalists and other communicators on public health issues, values and approaches
- Existence of specific training on risk and crisis communications; including:
  o Dealing with uncertainty
  o Developing and maintaining trust
- Availability of communication expertise to support departments and other stakeholders to design, plan, implement and evaluate public health communications and marketing programmes
- Existence of communication staff trained in planning, implementing and evaluating market research for public health initiatives
- Existences of information technology to access, evaluate, and interpret public health data for communication and transparency purposes
- Existence of communication specialists whose main focus is public health communication, rather than media coverage for the ministry

9.5   Public health communication evaluation
Evaluation of communication initiatives in terms of process and health outcomes should include the following:

- awareness raising (pre-and post surveys)
- media impact
- policy development and implementation
- behavioural changes
- health impacts

EPHO 10: Health related research

Definition of operation:

Research is fundamental to informing policy development and service delivery. This operation includes:

o   Research for enlarging the knowledge base that supports evidence-based policy making at all levels
o   Development of new research methods, innovative technologies and solutions in public health
o   Establishment of partnerships with research centres and academic institutions to conduct timely studies that support decision-making at all levels of public health

10.1   Country's capacity to initiate or participate in epidemiologic and public health research
Capacity for epidemiologic and public health system research should include the following:

- Availability of research institutes, universities and school of public health with capacity to conduct research in public health
- Availability of a mechanism that mobilises funding sources to encourage research in public health
- Updated assessment of burden of disease and its risk factors in the country for prioritization of public health research
- The existence of a bureau of chief scientist in the MoH at national or sub-national level
- Definition of research fields in public health
- Definition of priority areas of public health research (declaration of policy or budget allocation)

10.2   Adequacy of available resources (e.g. databases, information technology, human resources) to promote research
Capacity for epidemiologic and public health system research should include the following:

- Existence of databases and information technology on a country and/or regional level
- Integration of SSII to create useful databases for epidemiologic research and public health systems
- Facilitation of access to current databases for both professionals within the system and for researchers outside the system through collaborative agreements (e.g. with other research centres, universities).
- Availability of specific research training for professionals to develop the existing methodology in research

10.3   Planning for the dissemination of research findings to public health colleagues (e.g. publication in journals, websites)
Capacity for epidemiologic and public health system research should include the following:

- Existence of knowledge-brokering mechanisms (organizations and structures) to disseminate research finding to decision-makers in public health
- Promotion of exchange and transfer of results between the different research development settings (researchers working within the system, researchers working outside the system)
- Existence of networks that favour the dissemination of results as well as the rapid uptake of new knowledge

10.4 Country's evaluation of the development, implementation, and impact of public health (and PH services) research efforts

Capacity for epidemiologic and public health system research should include the following:
- The contemplation of the PHS system and tools in the design phase of the research
- The development of programmes for assessment of public health research
- The implementation of PHSS research in the system or in programmes designated for target populations
- The evaluation of impact of public health research efforts

10.5 Fostering innovation among staff

Fostering innovation should include the following:
- Availability of time and resources for staff to pilot test or conduct experiments to determine the feasibility of implementing new ideas
- Existence of a collaborative agreement between the professionals working within the PHS system and researchers in the academic institutes or research centres to conduct research
- Integration of research performance in the culture of PHS

10.6 Ministry of Health's research and monitoring of best practices

Points to be considered:
- Identification and dissemination of best practices at a national (MoH and other national agencies) and international (e.g. EU and WHO) level
- MoH adoption and implementation of successful initiatives in other geographical locations, adapted as needed to the national context

10.7 Active use of research evidence used in designing and supporting policy in the field of public health

Fostering innovation should include the following:
- Availability of research evidence for use in designing and/or supporting public health policy
- Good practice in use of research evidence in creating public health policy
- Inclusion in the health policy-making process of position papers that take into account the social determinants of health
- Development of cost-benefit analyses as part of health policy making

10.8 Capacity for the collection, analysis and dissemination of health information

Fostering innovation should include the following:
- Availability of health information collected by the public sector
- Availability of regular and yearly health information in the national bureau of statistics
- Quality level of the information collected, analysed, and disseminated by the public health sector
- The use of health information collected by the public sector by the health and public health sector
- Decision-making that takes into account information produced by the information system
- Harmonization and coordination of the health information collected by different agencies and sectors

10.9 Capacity to carry out research on the social determinants of health (and their influence on health) in order to shape and target policy

Fostering innovation should include the following:
- Research on poverty levels among specific populations – including child poverty and poverty among the elderly
- Research on poverty determinants and effects in different spheres, including housing, work & unemployment, education, nutrition, drug use and other causes of socio-economic exclusion
- Balance in allocation of resources among research fields, as these relate to socio-economic determinants

10.10 Mechanisms for ensuring that policies, priorities and decision-making are consistent with evidence of effectiveness on the broader determinants of health

Fostering innovation should include the following:

- Availability of research studies on the social determinants as part of decision-making process
- Use of evidence- based results of research on broader determinants of health
- Relevance of cost-benefit or cost-effectiveness research to the decision-making process

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