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Public Health Capacity in the EU

Final Report

Disclaimer

This report contains the results of a study carried out under EU Tender No. EAHC/2009/Health/05 launched by the Executive Agency for Health and Consumers within Work Plan 2009 of the Second Programme of Community Action in the Field of H ealth 2008–2013.

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Executive summary

1. This report aims to provide an overview of capacity for public health in EU Member States, with a view to identifying areas of action which can be taken at national and EU levels to strengthen public health capacity, and ultimately to improve population health. The review was performed in 2010 and 2011, thereby providing a snap-shot of the situation in the Member States at that point in time.

2. The review included literature research, a quantitative and qualitative assessment at country level by national public health experts, case studies, policy dialogues and interviews with national stakeholders. A conceptual model for public health capacity was developed and the following domains were assessed: **(1) Leadership and Governance, (2) Organisational Structures, (3) Workforce, (4) Financial Resources, (5) Partnerships** and **(6) Knowledge Development**. These domains also covered particularly relevant areas for public health in Europe, including **health information systems**, **public administrative capacity** and the **public health aspects of health service organisations**.

3. The results indicate great diversity in the ways that the public health function is organised and delivered in the EU. Although Member States showed large variation in the different public health capacity domains, a number of common strengths and weaknesses were shared across the EU. For the majority of Member States, formal legislation and policy frameworks for public health were in place, with relatively clearly established responsibilities and accountabilities for setting up structures regarding communicable disease control, hygiene and immunisation. Responsibilities for 'broader public health issues such as action on behavioural and social determinants of health and health inequalities were often less clearly defined. In addition to differences in formal structures, there were also wide differences in the ways these were used in practice.

4. The findings of this report highlighted shortages of financial and human resources in many Member States. However, there was also a sense of uncertainty regarding the accurate quantification of these capacities. This was partly due to the often indistinct boundaries of the public health sector, including its multiple intersections with the medical care sector. At the same time, the review showed that many national experts are experiencing, and anticipated further, downsizing of public health infrastructures and services due to the impacts of the economic crisis and the related ongoing reforms. While the effects of this to population health could not yet been

foreseen, it was strongly believed that negative effects were inevitable. In conclusion, an urgent need for reversing these downward trends in the Member States was considered to be of vital importance.

5. Partnerships for public health were seen as important to identify, generate and exploit additional resources and to back up advocacy and leadership efforts. In many countries, they were considered underdeveloped and legal and other mechanisms to support and motivate partnership building efforts were often reported not to exist.

6. Research capacity in the Member States was considered as relatively well established. However, the effective facilitation of research capacity in support of policy development and programmes was often considered insufficient.

7. Public health information systems enabling the assessment of the health of the population and the monitoring of policies differed widely in their coverage and efficiency. While there was a substantial number of Member States where such information systems were in place and working well, there were others with significant difficulties in producing timely and accurate information on key areas such as morbidity, health-related behaviours and the health of different social groups.

8. It became clear from the study that assessing or measuring public health capacity is a challenging task. For many areas, data on the level of capacities was difficult to obtain. In particular, there was a general sense of uncertainty regarding the capacity of the workforce and the financial resources for public health. There are different understandings among European countries on the tasks and limits of public health services and there are wide differences in the extent to which this issue is pursued on national agendas. The diversity in the organisation of public health systems, including departments at national, regional and local levels does not allow for ‘one size fits all’ approaches.

9. Across the EU capacity with regards to formal regulations in areas such as infectious disease control, addressing more ‘traditional’ public health issues (e.g., immunisation, emergency planning) was evaluated as relatively well developed whereas capacity addressing health promotion, social determinants of health and cross-sectoral collaborations was viewed as generally weak.

10. In many countries, governments are committed to public health issues. In times of decreased public spending, developments for public health are often regarded as low priority. Many experts and public health authorities are therefore seriously concerned about future developments.

11. In this study, national experts provided a number of recommendations on what countries could do in order to improve their public health capacity. These recommendations were multifaceted and often addressed the following main topics: (1) the need for additional resources, (2) a stronger focus on public health actions addressing behavioural socio-economic and environmental determinants of health and (3) more 'good governance' including strengthening the competences for public health at various levels of government as well as better processes policy formulation, implementation and evaluation.

12. Perhaps unsurprisingly the recommendations of the national experts who were key informants for the study often focused on the identification of what should be done, whereas the question of how this could be achieved was less well addressed. They include topics that have posed challenges to the public health community for many years (e.g., advocacy for public health, impact and utilisation of evidence-based knowledge, cross-sectoral partnerships, Health in All Policies, addressing social determinants of health and health inequities etc.).

13. The assessment showed that the capacity of some countries was much better developed than in others. This provides an opportunity for the exchange of information on best practices, experienced barriers and limitations. Ultimately, mutual learning could be a key element for strengthening public health capacity across Member States.

14. Recommendations for EU activities to support capacity building for public health were derived from discussions with the consortium partners and participants from the policy dialogues, as well as from the results of the case study analysis. The EU can support Member States through various channels, including encouraging cooperation on the development of health information systems, promotion of the exchange of good practice, coordination of certain public health activities between Member States – e.g., in communicable disease control, complementation of national activities and actions in areas where the EU has policy competence and in some instances supporting public health capacity building through the use of financial instruments such as the structural and social funds.

15. The findings of this report reiterate the importance of ongoing activities by the EU that contribute to the strengthening of public health capacity in Member States. In the light of the economic crisis, and the related changes to Member States' public health systems and infrastructures, EU activities form an important pillar of continuity. To further strengthen and support Member States in building additional capacity for public health, the EU should maintain the current activities and, if necessary ensure further their sustainability and effectiveness. Activities beyond the current scope could address the following priority areas:

    1. Further support dialogue and information exchange between Member States and public health stakeholders on ways to strengthen capacity in the light of current societal challenges (e.g., demographic change and ageing populations, the current economic crisis, communicable and non-communicable diseases, societal inequities and a deterioration of living conditions, climate change and other global health challenges)

    2. Further develop EU activities in the field of public health to support national and local policies

    3. Strengthen EU support for public health and health promotion across all socio-economic groups, including actions for preventing disease or promoting health that are sensitive to the social gradient

    4. Address knowledge gaps and support knowledge creation

    5. Facilitate the use of EU funding for strengthening public health capacity in areas of the EU with the highest needs

    6. Support work to define, assess and strengthen the public health workforce

    7. Build partnerships for Health in All Policies to address better the socio-economic determinants of health inequities.

16. In the context of the recommendations given, it should be acknowledged that the scope of this study was not to provide a detailed roadmap for the EU to strengthen and develop public health capacity in Europe but to provide pointers that could be considered further at EU and national levels.

1. Introduction

1.1 Rationale for this study

17. Public health capacity describes the organisational, human, financial and other resources, which enable actions to be taken by responsible authorities to improve health and reduce health inequalities. The EU Health Strategy 2008–2013 identified the need for greater capacity in public health delivery, as a requirement particularly for delivering actions towards its first objective relating to promoting health and preventing disease throughout the lifespan. The relevance of adequate capacity for protecting and improving public health is emphasized by the recognition that health is both a goal in itself and a key driver of economic growth.

18. This aim of this study was to provide an overview of public health capacity in EU Member States, with a view to identify areas of action which can be taken at national and EU levels to strengthen public health capacity, and ultimately to improve population health.

19. More specifically, the assessment aimed at achieving the following objectives:

- to carry out a review of the capacity of EU Member States to develop and implement public health policies and interventions;
- to identify key gaps, needs and common issues;
- to identify a number of suggestions for action where EU support could provide assistance and added value to strengthen public health capacity.

20. It is important to note that public health as a concept is characterized by a diversity of terminologies and interpretations. Across EU Member States, there is no single consensus on the meaning of public health (Kaiser and Mackenbach, 2008). Currently there is also no consensus regarding the core dimensions of public health capacity. Conceptual and operational definitions differ and there is no generally agreed-upon model or framework that describes the dimensions that should be considered when trying to assess public health capacity (PAHO, 2007). This clearly poses a challenge for assessing public health capacity. The study therefore included a literature study to identify commonality on definitions and concepts, which ultimately could be translated into a framework for the assessment.

21. The specification for the study asked for 'a detailed review of the capacity of EU Member States to develop and deliver effective public health policies and interventions'. A broad definition of public health by Stoto, Abel & Dievler (1996) was applied as a working definition, which set the scope for this review and the subsequent capacity mapping efforts. Accordingly, public health can be understood as "all activities for disease prevention, health promotion, and the protection of individuals and populations from hazards, as well as assessment of health and health needs, policy formulation, and assurance of the availability of corresponding services."

22. While this definition focuses on well-defined areas, the concept of health promotion should be particularly highlighted. Capacity building in this area has been widely debated and has been the focus of various projects in and outside the EU.[1,2,3]

23. Public health as a discipline also has seen various changes over the last decade(s):

- **change of goals:** from the mere reduction of disease and mortality to a shift from acute care to prevention

- **change of approach:** from a top-down prescriptive administrative approach based on a knowledge transfer model to a participatory approach characterized by multi-component solutions addressing multiple causes at socio-economic, environmental, and individual level

- **change of actors:** professional experts and decision makers are no longer the only relevant actors in dealing with population health, but are being joined by a multidisciplinary group including researchers, institutional decision makers, professionals, civil society and the private sector.

24. These changes create a need to broaden the professional basis for public health practice. Issues such as public health management, including strategic planning, health-target setting, project management, and evaluation are being added to the 'traditional' knowledge base for public

[1] See: EuroHealthNet. Building the Capacity for Public Health and Health Promotion in Central and Eastern Europe. *Final report.* Brussels. 2007.
[2] See: WHO Regional Office for Europe. European Capacity Mapping Initiative. *Briefing Documents.* WHO, Regional Office for Europe, Venice. *2005.*
[3] See: HP Source: the health promotion discovery tool. *Health Education Research. 2002;* 18(6): 780-81.

health, coupled with greater attention to the policy environment and the process of policy making. Moreover, in addition to training health professionals, the institutional, organisational, human and financial capacities of the public health community need to be enhanced.

25. However, it is apparent that at the current stage, many EU Member States and Candidate Countries have insufficient institutional and professional capacity for public health – and the process of reforming their services is slow. Compared to the USA and other industrialized countries, and even some emerging economies, the relative weakness of public health capacity in some parts of the EU is striking.

European added value

26. Although public health largely remains the competence of the Member States, article 168 of the Lisbon treaty covers the EU's mandate to complement national policies directed towards improving public health, preventing human illness and diseases and reducing risk to human physical and mental health from hazards. In the field of public health capacity building, the EU has supported a range of activities. This has included the development of an EU health information system, cooperation on the development of national and EU activities on communicable disease control and response to health threats; and development and exchange of information on policies on health determinants and health systems. The EU public health programme has provided operational grants to public health organisations and also supported activities on public health training as well as in 2008 a Conference on Professionalism and Capacity Building in Public Health in South-Eastern and Eastern Europe and a project led by the Health Promotion State Agency of Latvia on Capacity Building in Public Health and Health Promotion in Central and Eastern Europe.

27. EU-27 countries differ in the relative importance of traditional public health (e.g., control of communicable diseases) and more 'modern' public health functions (e.g., action on the determinants of health, including behaviours, environments, housing, inequalities and issues related to human rights). Member States have the principal responsibility for public health systems. However, the EU has a number of roles where it potentially can add value. These include promoting the exchange of information and good practice and assisting in the coordination of policies among Member States. It may also include support for research,

information systems and technologies. EU Structural Funds may be relevant for training, public health administrative capacity building and infrastructure related to public health delivery.

28. The need and commitment for building public health capacity in Europe has also been addressed by the WHO European Region. In its resolution on 'Strengthening Public Health Capacities and Services in Europe' a commitment was made towards strengthening public health capacity through the implementation of a set of Essential Public Health Operations, the strengthening of regulatory frameworks for protecting and improving health, the improvement of health through health protection, disease prevention and health promotion, assurance of a competent public health workforce, development of research and knowledge for policy and practice and strengthening of organisational structures for public health (WHO Europe, 2011).

1.2 Structure of the report

29. This report is structured as follows: Chapter 2 describes the methodology of the assessment, including the development and application of a conceptual framework and assessment tool as well as the methodologies regarding the case study analysis, appreciative inquiry and policy dialogues. Chapter 3 provides an elaboration on the concept of public health capacity and introduces the conceptual model on which the corresponding analysis leans on. Chapter 4 includes the results of the quantitative and qualitative analysis and identifies strong and weak domains across the EU Member States. Based on this, an aggregation of the national experts' recommendations to strengthen public health capacity is provided per domain. The report closes with Chapter five, which presents recommendations for action at EU level.

2 Methodology

30. A mixed methodology was used to assess public health capacity building in the EU. It involved (1) reviewing the literature and developing a conceptual model for public health capacity, (2) developing an assessment tool for public health capacity in the Member States and subsequent application by key experts, (3) case study analysis, (4) phone interviews with national stakeholders (appreciative inquiry), (5) development of country profiles and (6) policy dialogue on the findings and recommendations. The collected data yielded insights into the key dimensions of public health capacity in the European Member States. As data collection was finalized in mid-2011, the report presents the situation in the Member States at that point in time. The subsequent analysis of various information sources helped to identify the main strengths and weaknesses of public health action in the EU and informed the formulation of recommendations to Member States and the EU.

2.1 Literature review

31. The purpose of the literature review was to provide an overview of current public health capacity frameworks and tools and to support the creation of a conceptual framework for the further development of indicators, which could be used to map the capacity in EU Member States. The systematic literature review involved searching the journal databases PubMed and Science Direct, using the keywords ‘public health capacity’, ‘capacity building’, ‘capacity framework’, ‘capacity tool’ and ‘capacity mapping’ in various combinations. Reference lists of the identified articles were checked for additional publications, and personal contacts were used as further information sources to identify unpublished reports.

32. As a result, more than 100 publications and unpublished documents were retrieved. Relevant publications from this list were selected for the review on the basis of the abstracts or summaries, using the following inclusion criteria: (1) the document describes one or more framework(s) and/or assessment tool(s) for capacity with a focus on public health issues; (2) the outcome of the framework or tool is public health capacity, as distinct from public health performance or competences; (3) the framework describes capacities at national and/or regional level; and (4) the document has been published or otherwise made publicly available after 1995. The first three criteria aimed to exclude models and concepts that were only vaguely related to the issue of

describing public health capacities at national level. The restriction to documents published after 1995 was meant to exclude frameworks or tools that had become outdated or had been revised.

33. Publications that met the inclusion criteria were content analysed to identify the dimensions of public health capacity as represented in the existing conceptual frameworks. Finally, a content analysis was performed on the publications describing tools to assess public health capacity, focusing on the conceptual basis, format, dimensions covered and validity of the tools. To integrate the findings, dimensions of different models bearing the same content were clustered and integrated in a comprehensive framework describing public health capacity (Figure 1).

2.2 The Public Health Capacity Assessment Tool

34. Maastricht University and EuroHealthNet led the development of an assessment tool for public health capacity in the EU Member States, based on the conceptual framework. The tool was formatted as a questionnaire and built on existing capacity assessment tools to operationalise the following dimensions of public health capacity: Leadership and Governance, Organisational Structures, Financial Resources, Workforce, Partnerships, and Knowledge Development. These domains were further divided into 21 sub-domains, which in turn were operationalised by 128 quantitative indicators scored on a Likert scale ranging from '1' (capacity not developed) to '6' (capacity fully developed and functioning well). In addition, textual information could be provided to all domains including a seventh domain, which was labelled 'national context'.

35. The data collection process (i.e. the application of the tool in the Member States) was led by EuroHealthNet and followed a key-expert approach. National experts for public health and health promotion for each respective Member State were identified on the basis of a set of predefined criteria (Box 1) and contacted through the consortium's network. The final selection of national experts included representatives from academia, national institutes of health and public health associations. Each national expert identified relevant documents related to public health capacity in their country and used the assessment tool to conduct a systematic analysis of these key documents, yielding scores and qualitative comments on dimensions of public health capacity.

36. The findings of the assessments were discussed and refined at national focus group workshops. Each national expert was asked to organise a focus group of six to ten key persons with expertise in national public health with the aim to check completeness and correctness of the capacity assessment and complement the data with country-specific needs and priorities in the

area of building public health capacity. The goal was to reduce the subjectivity of the results and achieve a more consensus-derived picture of public health capacity in a given country. The purpose these focus groups was also to identify additional issues that may have been overlooked by the national expert.

37. A total of 18 workshops were organised and chaired by the national experts. They were mainly attended by representatives from the Ministry of Health, public health institutes, academic institutions and health care organisations. The number of workshop participants varied between four and ten. In some countries, workshops could not be organised due to the limited amount of time and resources available for completing the assessment tool. Further confirmation of the reported outcomes for countries was achieved by the policy dialogues (see section 2.4).

Box 1: Requirements for national experts to participate in the study

- at least seven years of experience in public health/health promotion;
- good knowledge of the organisation and function of the public health system in relation to health promotion in their country, and a good understanding of health equity and determinant- based approaches;
- fluent in written and spoken English;
- good knowledge and understanding of policy and regulation frameworks and documents;
- previous experience in national programmes or policy implementation, participation in other public health/health promotion capacity evaluations and in other EU projects.

38. Please note that although experts from all Member States contributed to the assessment it was not possible to obtain quantitative data from Denmark.[4] Furthermore, experts from the United Kingdom based their responses on data from England and did not include Scotland, Wales or Northern Ireland in their responses.[5]

[4] During the process, the consortium approached nine experts from Denmark to participate in this study. Some of the experts first agreed to participate, but later in the project withdrew their collaboration and did not keep to the deadlines. The reasons given for non-participation mainly related to the short time frame of the study and the high-level experts' corresponding lack of time, and too little financial compensation.

[5] This was mainly due to the difficulties in assessing the structures across these regions. The application of the tool in decentralised countries should have ideally occurred at the regional levels. Consequently, the information for the UK mainly stems from an assessment performed for England.

39. Data from the workshops and the consensus-derived assessment tool were sent to Maastricht University for subsequent analysis. The survey results were analysed using descriptive statistics (means, standard deviations and outliers) to identify high and low capacity scores in countries and to explore differences between countries.[6] Country level data was aggregated to identify common themes and differences at the European level.

40. Although some literature suggested giving more emphasis to certain domains by weighting them during the analysis, it was decided to weight all domains as equally important. The decision for this was based on the recognition that although different domains can been identified in theory, in practice, they are largely interlinked. These links blur the different domain's boundaries and hence require an all-inclusive approach to the analysis of public health capacity. Giving the same relevance to all capacity domains was therefore considered necessary in order to promote the all-inclusive approach of the assessment.

41. For the qualitative sections of the assessment tool, the national experts' comments and suggestions for change were appraised in order to shed more light on the quantitative scores and to develop a more comprehensive view of public health capacity in the respective Member State. The different experts' comments and recommendations were furthermore summarised to identify recurring topics. This helped to build a picture of public health capacity across the different domains for the EU as a whole. These themes ultimately formed the basis for the analysis and formulations of strengths and weaknesses at the European level.

42. Box 2 shows a guide to the number of responses corresponding to various descriptive terms in the following text.

[6] For these analyses, not only absolute values were calculated, but also so called *standardised* scores, which represented a relative (positive or negative) measure of any indicator in relation to the other scores and thereby relative strengths and weaknesses in each country.

Box 2: Distribution of answers and the corresponding references in text

27	=	All experts / countries
20–26	=	Large majority of experts / countries
15–19	=	Majority of (most) experts / countries
10–14	=	Many experts / countries
5–9	=	Some experts / countries
0–4	=	Few experts / countries

43. In addition, relevant literature from the Member States was consulted to complement the information gained from the assessment tool.

2.3 Country profiles

44. A review of public health capacity in the EU can only be comprehensive if a large degree of analysis is performed at the Member-State level. Therefore, this assessment also appraised the individual country's context, including an analysis that identified strengths and weaknesses at the national level. Country profiles of strengths, weaknesses and recommendations were developed on the basis of the results of the Public Health Capacity Assessment Tool, which was initially completed by the national experts. Relevant information was extracted from the tool, analysed and sent back to the national experts for further additions and validation. In this context, it is important to mention that the country profiles reflect the knowledge and opinion of the public health expert and solely represent a quick scan of strengths and weaknesses in public health capacity. A comprehensive, in-depth public health capacity assessment at national, regional or even local level would certainly contribute to a better understanding of the current status in the Member States and would give more room for national contexts, and current political and social circumstances. Nevertheless, the given country profiles allow for the recognition of good practices, enable mutual learning and can help to identify opportunities for EU support. The profiles can be found in Annex A of this report.

2.4 Policy dialogues

45. Based on the results of the data analysis, two policy dialogues were organised among representatives of the Member States to confirm the necessity of and complement the recommendations for action. The WHO European Observatory on Health Systems and Policies organised the policy dialogues, which involved policy makers, researchers and representatives

from public health institutions and associations. The principal aim of the workshop was to provide a platform for stakeholders from across the EU to review and discuss the preliminary findings of the project. Particular attention was given to areas where public health capacity could be strengthened at national and EU level, and where the EU could play a supporting role. Both workshops were held in Brussels with nine and 18 participants respectively. In total, representatives from 20 Member States attended the two meetings.[7] During the workshops, the national decision makers were presented with a draft report on strengths, weaknesses and recommendations for action and were asked to certify the findings from their experience. Accordingly, they provided their views, comments and additional recommendations from their particular national perspective for each domain.

2.5 Case study analysis

46. Public health systems and structures operating at national, regional and local level are very diverse across the EU. There are different understandings of public health, different definitions and functions embedded in more or less centralised or decentralised systems. The goal of the case studies was to provide more in-depth qualitative information of the capacity to develop and implement a certain policy or intervention addressing a public health priority in varying contexts and structures. As such, they reflected the capacity and resources used in different countries to address a specific public health need in a specific national or regional context. For the completion of the case studies, a template was designed to guide the development of the case study following the public health domains included in the assessment tool (see Annex D in the Supplement to this report). National experts submitted a total of 22 case studies. The national public health experts were free to choose the public health topic to be addressed or described so the topics were diverse, ranging from pandemic responses and disease prevention interventions to policy planning and development, intersectoral programmes and evidence-based policy making.

47. The case studies were content analysed by EuroHealthNet to extract information additional to the results of the assessment tool, policy dialogues and subsequent recommendations. As with the assessment tool, the case studies reflected the knowledge, opinion and experience of individual

[7] Countries not represented included Denmark, Hungary, Italy, Latvia, Lithuania, Spain and Sweden.

public health experts. The subjective nature of responses therefore needed to be taken into consideration in the subsequent analysis and reporting.

2.6 Appreciative Inquiry

48. Although many European studies identify good practice examples, these are rarely easily transferrable. Differences in health system culture, governance and financing render translation by imitation from one context to another barely possible. The appreciative inquiry was performed by EHMA and its aim was to analyse how initiatives had been implemented, particularly focusing on the key success factors and barriers that had to be addressed. The objective here was to push beyond the usual model of identifying and describing best practice, and to look at the implementation, and in particular, to start unpicking the tacit knowledge that underpins change. Appreciative inquiry is defined as 'the art of discovering and valuing those factors that give life to an organisation, community or group' (Mann, 2005). One commonly used framework for applying appreciative inquiry is the 4-D Model, based on four interrelated steps: Discover: what gives 'life' to an organisation; what is happening when the organisation is at its best? Dream: what might be; what could the organisation become? Design: how can the ideal be created as articulated by the whole organisation? Deliver: How can continuous learning, adjustment and innovation take place? This study adapted the 4-D framework to concentrate on the first and fourth elements, aiming to discover the success factors of public health capacity building, and how they were learning to sustain innovation in a particular implementation. This is the first time that this approach has been used in a European public health context. To identify examples of successful public health capacity building in the EU, the consortium members drew up a long list, based on themes from the case studies and from the analysis of strengths and weaknesses. Due to the short time frame available for organising and processing the appreciative inquiries, it was decided to limit the number of interviews to a maximum of four. Therefore, the partners voted on a shortlist of only four possible cases, for which three stakeholders would be available for interview. The semi-structured interviews were conducted on the phone with key personnel involved in the development and implementation of the initiatives.

2.7 Development of recommendations

49. While the national public health experts participating in the assessment provided the primary recommendations for strengthening public health capacity at the Member-State level, further recommendations for EU activities to support capacity building were derived from discussions

with the consortium partners and participants in the policy dialogues, as well as from the results of the case studies and the appreciative inquiries. The conclusions from the Conference on Professionalism and Capacity Building in Public Health in South-Eastern and Eastern Europe (2008) were also discussed in this context. Because this report is largely based on the opinions of experts, it needs to be acknowledged that subsequent conclusions and recommendations that can be drawn from this report are limited by the study methods employed and should mainly serve as an incentive for further discussions at the European and Member-State level.

2.8. Limitations of the study

50. As mentioned previously, the assessment followed a key-expert approach with one national expert responsible for drafting an overview of public health capacity for his or her country. This was then discussed and refined at a national focus group workshop with another four to ten public health experts. In the event, only 18 countries carried out the full assessment using focus group workshops. The remainder of the assessments is based on the opinions of a relatively small number of experts. Therefore the subjectivity of individual responses needs to be taken into consideration regarding the findings and corresponding conclusions and recommendations. In an attempt to balance the subjectivity of responses, a further analysis of relevant documents was performed by the authors to examine a selection of statements provided in the national reports.

3 Public health capacity

3.1 Public health and capacity building

51. Public health activities change with evolving health problems, technology and societal values. In the last two decades, the nature of public health has changed so dramatically that some authors speak of a 'Third Public Health Revolution' (Kickbusch & Payne, 2003; Scutchfield, 2004). Indeed, public health has seen a change of goals, approaches and actors of public health. With respect to goals, the focus has changed from the reduction of disease and mortality to an increase of healthy life years and reduction of health inequalities. In terms of approaches, there was a shift from top-down, prescriptive measures to a participatory approach characterized by multi-component solutions addressing multiple causes of ill health at socio-economic, environmental, and individual level. With regard to actors, professional experts are no longer the only relevant players in dealing with population health, but have been joined by a multidisciplinary group including institutional decision makers, professionals, civil society and the private sector.

52. To address these changes, it has been argued that the professional basis for public health practice needs to be broadened. In addition to greater attention to the policy environment and to the process of policy making, issues such as public health management, strategic planning, health-target setting, project management, and evaluation are being added to the 'traditional' knowledge base for public health. This requires training health professionals, as well as enhanced institutional, organisational, human and financial capacities in the public health community. In this context, public health capacity can be defined as a function of the level of organisational, human, financial and other resources, which enable actions to be taken by responsible authorities to improve health and reduce health inequalities.

53. Capacity building has become a key concept in the field of public health. International organisations as well as Ministries of Health increasingly rely on capacity building to enhance overall performance in the health sector (La Fond, Brown & Macintyre, 2003). The emergence of the concept coincides with a shift of focus from directly trying to influence the health of the population towards making actors responsible for and capable of conducting and maintaining public health actions. The underlying idea is that enhancing the capacity of the system to prolong and multiply health effects represents an added value to the health outcomes that are achieved by particular interventions (Labonte et al., 2002).

54. The contemporary view of capacity building goes beyond the conventional perception of training or providing technical assistance. It also involves assisting individuals or groups to identify and address issues and gain the insights, knowledge and experience that are needed to solve problems, implement change, build effectiveness and reach sustainability. Capacity building for public health was introduced in the 1990s, as a response to the new challenges the field was facing. One of the first publications on the issue was an article by Hawe, King and Noort (1997), who proposed a set of indicators and checklists for the planning and evaluation of capacity building in health promotion. The following decade witnessed various other attempts to conceptualise and assess capacity for public health and health promotion. For instance, in preparation of the Global Health Promotion Conference in Bangkok in 2005, the WHO performed an assessment of the health promotion capacity in the different WHO regions, using a model referred to as the health promotion capacity wheel (Catford, 2005).

55. In a similar way, Alwan, MacLean and Mandil (2001) mapped national capacities for non-communicable disease prevention and control. In addition, the WHO Regional Office for Europe has continuously evaluated public health services in many South-Eastern European countries, using a self assessment tool on the basis of the ten Essential Public Health Operations. These assessments are currently broadened to also some western European countries. UNICEF undertook an assessment of the capacity of health systems to perform health promotion and communication in support of improved population health and social development outcomes (Spence, 2007). Other capacity assessments were concerned with healthcare delivery systems. An example of the latter is the series of 'Health in Transition' (HIT) studies undertaken by the European Observatory on Health Systems and Policies, which examines a country's capacity in five areas, including organisational structure and management, healthcare financing and expenditure, healthcare delivery system, financial resource allocation, and healthcare reforms.

56. In most of these initiatives, capacity building is considered as an approach to strengthen and sustain systems and to 'prolong and multiply health gains many times over' (Catford, 2005). This emphasizes the relationship of capacity building with the sustainability of public health and health promotion outcomes. However, enhancing capacity is not only a means to sustain activities or outcomes of particular programmes, but can also be an end goal in itself in the sense that interventions can specifically aim at enhancing the capacity of the public health community, which is also the objective of this assessment.

57. In addition, one of the principles of capacity building is that it should show respect for and build upon pre-existing capacities, and use well-planned and integrated strategies to respond to context. Therefore, any attempt to build public health capacity requires a prior analysis to identify which capacities already exist, how well they are developed, and how well they link together as a system (Battel-Kirk et al. 2009). Such a capacity mapping process should ideally involve a systematic, objective assessment of existing capacities using a predefined set of indicators based on a conceptual framework.

58. It should be noted that while the purpose of capacity building is to enable action in public health systems (NSW, 2002) the capacity mapping process does not provide answers about the actual performance of health systems. Rather, capacity mapping is an evaluation of the system's ability to fulfil its specific functions within a set of resource constraints. Whether the specific objectives of a health system are ultimately achieved is not part of capacity mapping; this aspect should be left to conventional performance assessments in public health. Further, capacity mapping should also be distinguished from assessing competencies. The literature on competencies for public health and health promotion is concerned with identifying and describing the knowledge and skills that are required of public health professionals, as a basis to guide professional training. In contrast, public health capacity is broader and looks at the characteristics of the health system.

3.2 Dimensions of public health capacity

59. In order to be able to perform a capacity assessment, it is necessary to have an operational definition of capacity building in place, which outlines its core components and characteristics. As the concept of 'capacity' seems to vary for different types of settings and levels, there is no consensus yet regarding the main dimensions of capacity for public health. However, most authors would agree that the prerequisites to address contemporary public health issues should include adequate information and monitoring systems, a knowledgeable and skilled public health workforce, capacity for research and development, sufficient resources and infrastructures, collaboration between various actors, and adequate policy, planning and management systems. In this context, WHO Regional Office for Europe' ten Essential Public Health Operations also describe the necessary basic capacity for public health systems in Europe. Nevertheless, despite this conceptualisation, there is still no generally agreed-upon model of public health capacity (PAHO, 2007).

60. A literature search identified 14 publications that explicitly propose a conceptual model outlining the main capacity areas for public health. While most of these publications focus on capacities in the field of health promotion, others consider public health in a more general context. In addition to the conceptual frameworks, another very relevant source of information for identifying dimensions of public health capacities were identified publications describing instruments to assess public health capacity. Nine assessment tools could be identified.[8]

61. The review of literature on frameworks and tools for public health capacity indicated several reoccurring dimensions. A clustering of the dimensions with similar content yielded six key domains of public health capacity:

1. **Leadership and Governance:** the ability and willingness of governments to develop and implement effective public health policies; and the existence of qualities in leaderships and strategic thinking at governmental level and in the public health sector respectively;

2. **Organisational Structures:** the infrastructural ability of the system to effectively, efficiently and sustainably exercise its public health functions;

3. **Financial Resources:** the generation and allocation of financial resources necessary to carry out public health activities;

4. **Workforce:** the availability and allocation of qualified human resources with sufficient skills and knowledge, including the availability of training options;

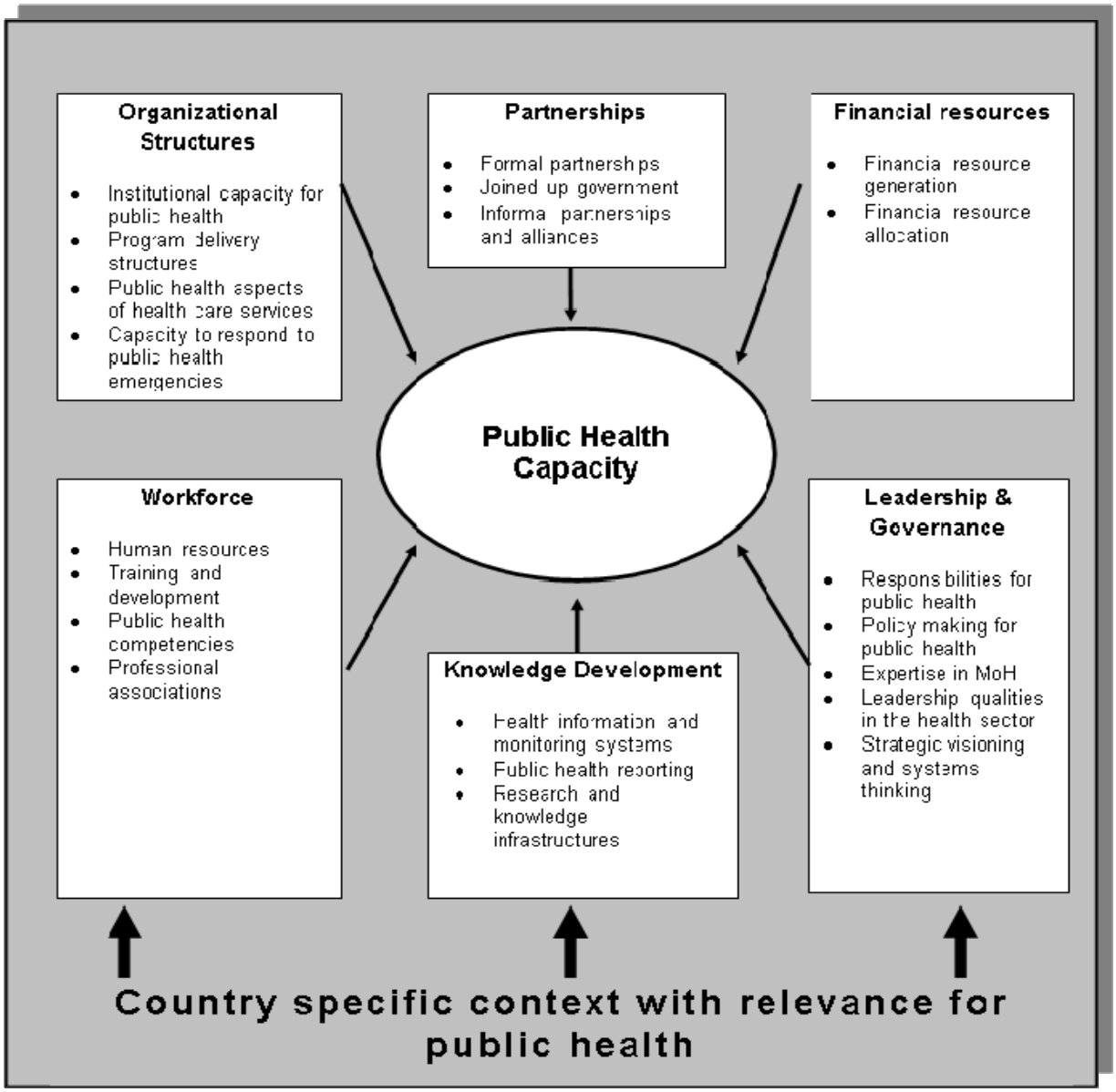
5. **Partnerships:** the establishment of sustainable and effective collaboration between organisations to achieve effective public health;

6. **Knowledge Development:** the improvement of the knowledge base that supports evidence-based policy making, fosters the development of new research and innovative solutions to problems, and establishes fruitful partnerships between research centres and academic institutions.

[8] See Appendix E for an overview of frameworks and assessment tools identified in the literature review

62. These capacity dimensions should in addition be considered against the individual political, historical and cultural context and other characteristics of the country that may have an influence on public health policies and capacities. This is in particular relevant for the EU context, in which 27 different countries are assessed. The six domains, as well as the specific context with relevance for public health, are represented in a model showing their joint contribution to public health capacity (Figure 1). As the figure shows, each of the domains is further broken down into a number of sub-domains of public health capacity, based on reoccurring areas in the existing conceptual frameworks. In combination, these dimensions allow for an overall appraisal of the public health capacity in a given country and provide a conceptual basis to enable a mapping or assessment.

Figure 1: Public Health Capacity Framework



4 Assessment across the EU Member States

4.1 Initial remarks

63. Using the Public Health Capacity Assessment Tool, national experts provided scores to 128 indicators to appraise the level of capacity across six specified domains. The analysis and commentary on public health capacity was subsequently informed by the assessments of Member States aggregated together with the results from the case study analysis, appreciative inquiry and policy dialogues, and further input from various external sources, e.g., scientific reports, policy documents, governmental publications. Data collection started in 2010 and was finalized in mid 2011. The information presented in this chapter therefore describes the situation in the Member States at that particular point in time.

64. In total, 26 national experts provided quantitative information on the basis of the assessment tool. The indicators were appraised on a 1–6 Likert scale:[9]

1: Capacities not developed

2: Capacities not developed, but need to be recognised

3: Capacities in early stage of development

4: Capacities partially developed

5: Capacities fully developed

6: Capacities fully developed and functioning well

65. Score analysis was guided mainly by the following questions:

[9] This scoring system is adopted from Spence (2007) in Health Communication/Promotion Capacity Mapping Questionnaire for the UNICEF CEE/CIS Region. To obtain a better description of the data in this chapter, the six groups were further categorised in three groups: (1) 'Capacities not developed' (formerly 1 and 2), (2) 'Capacities partially or in an early stage of development' (formerly 3 and 4) and (3) Capacities 'fully developed' (formerly 5 and 6).

1) What is the score of the individual indicators within the component structure (e.g., information about *absolute* strengths and weaknesses)?

2) How do the individual indicators rank in comparison to the country's average level of capacity (e.g., information about *relative* strengths and weaknesses in a country)?

66. Qualitative comments on public health capacities were received from 27 national experts. The combination of qualitative and quantitative information across Member States allowed for an overview of public health capacity in the EU and highlighted common strengths and weaknesses, but also differences in the level of capacity.

67. The national experts also provided recommendations to strengthen the identified weaknesses in capacity. For each domain, these recommendations were summarised, generalised and validated by academics, public health policy makers and senior officials during the policy dialogues. The identified strengths, weaknesses and recommendations from the national experts can be found in Annex A of this report. A summary of the experts' recommendations can be found at the end of each domain-specific section.

4.2 Results per domain

4.2.1 Leadership and Governance

68. Capacity in the Leadership and Governance domain can be defined as 'the ability and willingness of governments to develop and implement effective public health policies'. Besides the administrative capacity of governments and Ministries of Health to be aware of risks to public health and to create and deliver effective policies and initiatives to protect public health across a range of policy areas, this domain also refers to the existence of qualities in leadership and strategic thinking at governmental level for public health. The decision to combine the issues of leadership and governance and to link them to administrative capacity was made due to the strong links between these issues. Good governance should ideally be complemented by strong and effective leadership and a well-developed administrative capacity.

69. More specifically, the domain of Leadership and Governance should include the administrative capacity and the responsibility of public health authorities at the national and regional level (e.g., Ministry of Health, National Institute of Public Health, and regional departments for Health) to:

- assess and monitor the health needs of the population, health inequalities and awareness of risks to public health;
- develop, implement and evaluate effective policies and initiatives to protect and promote public health and address health inequalities;
- ensure partnerships and collaborations with other sectors and take leadership in addressing health determinants in other sectors.

70. A strong Leadership and Governance domain should not only be considered important in itself, but also for its influence on the other capacity domains. It impacts on all areas of public health capacity as it forms the basis for any governmental action.

71. In the Leadership and Governance domain, five components were assessed in detail:

- Responsibility for public health
- Policy making for public health
- Expertise in the Ministry of Health
- Leadership qualities for public health
- Strategic visioning and systems thinking

72. On average, the scores for this domain were relatively high across countries in comparison to the other domains. In particular, the 'Responsibility for public health' component received on average relatively high scores. For the other components, the findings are more mixed with variations both between indicators and across countries.

Table 1: Average scores for each component

Leadership and Governance					
Component	**Responsibility for public health**	**Policy making for public health**	**Expertise in the Ministry of Health**	**Leadership qualities for public health**	**Strategic visioning and systems thinking**
EU average:	4.86	3.90	4.01	3.83	3.74
Standard deviation (SD):	1.06	1.18	1.25	1.22	1.30

Responsibility for public health

73. While some countries follow a decentralised approach with many aspects of public health organisation and responsibilities delegated to regional or municipal levels, other countries are more centralised, with most public health powers remaining at the national level (Box 3). The different administrative levels of public health organisation across countries were acknowledged by the national experts to be a prominent feature of the public health landscape in the EU.

Box 3: Country division on the basis of administrative structure for public health

Mainly centralised	Mainly decentralised
Bulgaria, Cyprus, Czech Republic, Estonia, France, Greece, Hungary, Ireland, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia	Austria, Belgium, Finland, Germany, Italy, Spain, Sweden, United Kingdom, Denmark

74. Regardless of the administrative structure, clearly established responsibility for public health and specifically public health services is an important requirement for maintaining and strengthening public health capacity. In this context, responsibilities refer mainly to *formally* established and acknowledged tasks for public health and the health of the population at the higher levels of

administration. Please note that the existence of formal structures for public health does not automatically mean that they are also adhered to in practice.

75. Virtually all Member States have a designated high authority with a mandate and responsibility for public health-related matters (see Table 2, indicator 2.1.1). Only Austria and Latvia reported this as not fully developed. In Austria, the concept of 'public health' was reported to be relatively ambiguous and hence, a designated high authority could not be clearly identified (Box 4). In the Latvian case, the shutdown of the Latvian Public Health Agency was reported with the 'disintegration' of the Latvian public health system. However, the large majority of countries reported that legislation outlines the responsibility to assess the health of the population. In 16 countries these capacities are reported to be 'fully developed' and for seven 'in early stage or partially developed' (indicator 2.1.2). Sixteen countries are reported as having legislation in place that defines responsibilities for setting up structures to protect and promote the health of the population and ten countries have this partially in place (2.1.3). Formal accountabilities of public health institutes are at least partially regulated in the large majority of countries (with the exception of Luxembourg; 2.1.4).

76. Many national experts highlighted that the existence of formal responsibilities did not automatically imply a well-functioning system in practice. While many Member States have relevant laws and regulations in place, implementation of, and adherence to, the formal regulations may be incomplete. In addition, the analysis showed that while many countries have clear responsibilities with regards to traditional public health issues such as communicable disease control, hygiene and immunisation, responsibilities were less clearly established for many other topics including behavioural and social determinants of health and health inequalities.

Box 4: The role of public health in Austria

Austria has no clearly defined modern public health structure, or an overall public health framework, strategy or plan. 'Sozialmedizin' (social medicine) and 'Öffentlicher Gesundheitsdienst' are still used interchangeably with public health, although neither term can be equated with public health, in scope or in the basic principles. No legal national definition exists, which hampers the creation of common ground for discussion and defining uniform strategy. However, this does not mean that there are no public health activities. In some areas (e.g., immunisation), national legislation, policies or other regulations provide a policy framework for public health.

Table 2: Overview of experts' answers to: Responsibility for public health

Indicator	Mean	SD	Not developed	In early stage or partially developed	Fully developed	Indicator below country average (relative weakness)	Indicator above country average (relative Strength)
2.1.1 Designated high authority with a clear mandate for public health (Ministry of Health, Chief Medical Officer, High Counsellor)	5.4	0.8	0	2	24	0	26
2.1.2a Legislation provides a clear outline on responsibilities and accountabilities at governmental level for setting up structures to assess the health of the population	4.5	1.4	3	7	16	7	19
2.1.2b Legislation provides a clear outline on responsibilities and accountabilities at governmental level for setting up structures to protect and promote the health of the population	5.0	0.9	0	10	16	1	25
2.1.3 Organisations and institutes performing relevant public health operations regularly have to report their actions to the higher public health authorities	4.7	1.1	1	9	16	4	22

Administrative capacity: Policy making for public health

77. Policy making for public health refers to the capacity of countries to formulate and implement policies, laws and regulations that relevant to public health. This component received low scores In comparison to the other components of the Leadership and Governance domain. For other indicators of this component, the findings ranged from weak to well-developed capacities. Across indicators, the number of countries reporting no capacities varied from 1–6 (Table 3). For five indicators, at least half of the national experts provided scores that were below the country-specific average (see indicators 2.2.2, 2.2.3, 2.2.6, 2.2.7, 2.2.8), thereby indicating relative weaknesses.

78. As previously outlined, for the large majority of EU countries some sort of policy framework was reported to be in place that outlined the responsibilities and accountabilities for public health activities (2.2.1).

79. Regarding equity as a government priority, 13 countries were reported to explicitly include this aspect in either regulations or policies. However, in 12 countries equity was reported as either not being included or only partially included.

80. The large majority of experts reported that at least two sectors other than public health would (at least partially) take public health implications into account in their policy formulations (2.2.5).

81. Only five countries were reported has having fully developed processes for carrying out national and regional assessments of health needs (2.2.2). Only seven countries were reported as having fully developed systems for incorporating the views and expertise of relevant. Similar low ratings were obtained for evaluation or reviews of the implementation of a) legislation and regulations and b) public health policies and programmes (2.2.6, 2.2.7, 2.2.8). Overall, the low scores on this critical area of public health practice indicates considerable scope for further development.

82. Although many countries seem to have a well-developed academic capacity to support public health policy planning (see also section 4.2.6. on Knowledge Development), experts commented that this capacity was often not used sufficiently by decision makers. These findings are supported further by Allin, Mossialos et al. (2004) and the case study analysis:

"Policies are often not based on evidence and research findings, but on the opinions of a group of experts, or the so called 'anecdotal evidence". – Case study analysis

83. With regard to the regulatory and organisational structures for the implementation of public health policies and programmes, the large majority of national experts also reported that these structures needed to be supported by sufficient political will as well as human and financial resources. If this is given, the administrative and organisational capacities were sufficiently developed for successful implementation of policies and programmes. The issue of adequate resource provision often formed the highest barrier for effective programme implementation. In summary, the gap between policy and practice was widely acknowledged as a key problem for effective public health programmes and service delivery across Member States.

84. In addition, health care policies often dominated the political health discourse and as a result, public health policies were receiving less political (and financial support).

"The political interest is mainly focused on health care, patient safety, health insurance and economic problems in the health system." – Case study analysis

Table 3: Overview of experts' answers to: Policy making for public health

Indicator	Mean	SD	Not developed	In early stage or partially developed	Fully developed	Indicator below country average (relative weakness)	Indicator above country average (relative strength)
2.2.1 Country legislation, policies or other regulations provide a policy framework for public health	4.8	1.1	1	8	17	2	24
2.2.2 Public health policy planning is informed by and aligned with regional / local health needs of the population (provided through public health monitoring / information systems)	3.9	1.2	3	18	5	15	11
2.2.3 Public health policy planning takes into account the views and expertise from relevant stakeholders of the public health system	3.9	0.9	1	18	7	13	13
2.2.4 Country legislation, policies, strategic plans or other regulations endorse equity in health as a government priority	4.2	1.3	4	9	12	9	16
2.2.5 Country policies and plans in at least two sectors other than health acknowledge public health implications. Please specify by sector	4.4	1.0	1	14	10	8	17
2.2.6 National and regional governments periodically evaluate the implementation of legislation and regulations that address public health priorities	3.6	1.3	4	17	5	17	9
2.2.7 Public health policies and programmes are subject to a system of evaluation or monitoring, which feeds into future policy developments	3.6	1.2	5	15	6	15	11

2.2.8 Public health policies, plans and regulations are regularly reviewed and revised to address changing trends in health priorities	3.7	1.3	6	11	9	13	13

Administrative capacity: Expertise in the Ministry of Health

85. Expertise in the Ministry of Health refers to the expert knowledge and administrative capacity available in the national Ministries of Health for the effective formulation of public health policies and programmes. As the highest authority for public health at the regional or national level, with links to the government, the Ministries of Health play an important role in effective public health governance. Sufficient capacity in this regard was therefore considered an important condition for effective and efficient public health delivery and for promoting health in the public sectors.

86. The experts' answers showed that all countries had a high level governmental department at federal (and sometimes regional) level responsible for public health-related issues, thereby confirming the existence of the basic infrastructure for high level policy formulation and governance. Unfortunately, the actual performance of these departments was widely not addressed as part of this assessment.

87. Many of the indicators queried the existence of specific units/departments/sections in the Ministry of Health. For most countries, existing departments were reported in the areas of health promotion and disease prevention (2.3.5), environmental health (2.3.7), mother and child health (2.3.9) and especially international and EU affairs (2.3.10). A more diverse picture evolved for the countries regarding departments responsible for addressing demographic changes (2.3.6) and socio-economic factors (2.3.8). In this regard, ministerial policies and programmes regarding the 'social gradient' were found not well developed and relatively weak across many countries (2.3.3). Further gaps were acknowledged with regards to the existence of ministerial guidelines for the implementation of disease prevention and control measures (2.3.4) and for some indicators linked with the evaluation of policies. While the existence of ministerial evaluations of public health policies was confirmed by many experts, evaluations taking the social gradient or the impact of other sectors into account seemed less well developed and weak, compared to the country-specific average (2.3.12 – 2.3.14). In conclusion, while traditional public health fields such as communicable disease control seem to be well covered by the current structures a number of countries lack similar strength in public health capacity for addressing behavioural, social and environmental determinants of health.

Table 4: Overview of experts' answers to: Expertise in the Ministry of Health

Indicator	Mean	SD	Not developed	Early stage or partially developed	Fully developed	Indicator below country average (relative weakness)	Indicator above country average (relative strength)
2.3.1 The MoH uses an evidence-based approach to develop the regulatory framework, policies and programmes in the area of public health	4.1	1.0	1	17	8	10	16
2.3.2 The MoH has health policies/ programmes addressing current priorities for general population needs	4.4	0.9	0	14	12	6	20
2.3.3 The MoH addresses current priorities, looking at needs across the social gradient (health inequalities and socio-economic determinants of health)	3.5	1.2	4	17	5	19	7
2.3.4 The MoH has guidelines for implementing the most effective population-based methods of disease prevention and control	3.8	1.3	5	13	8	12	14
2.3.5 MoH has units responsible for health promotion/disease prevention	4.8	1.3	2	4	20	4	22
2.3.6 The MoH has units to assess and address public health that relates to demographic changes	3.8	1.6	6	12	7	12	13

2.3.7 The MoH has units to assess and address public health that relates to environmental health	4.5	1.3	2	10	14	6	20
2.3.8 The MoH has units to assess and address public health that relates to socio-economic factors	3.6	1.6	7	13	6	17	9
2.3.9 The MoH has units to assess and address public health related to mother and child health	4.3	1.6	5	5	16	6	20
2.3.10 The MoH has a unit responsible for international and EU affairs. developing international partnerships and collaborations	5.3	0.6	0	2	24	0	26
2.3.11 The MoH regularly monitors and evaluates public health policies and programmes	4.0	1.3	2	15	9	9	17
2.3.12 The MoH evaluates the impact of public health policies/programmes on population health across the social gradient	3.1	1.3	8	15	3	22	4
2.3.13 The MoH periodically evaluates the potential impact of other sectors' policies on population health with 'Health Impact Assessment' tools	2.6	1.3	13	11	2	24	2

Leadership qualities in the health sector

88. Public health capacity in the Leadership & Governance domain relies significantly on the existence of influential stakeholders with the power to mobilise synergies across organisations and sectors, to put public health issues on the political agenda and to advocate for a strong public health system at national, regional and local level. Credible voices and leaders for public health can include governments, organisations but also individuals in and outside the health sector with the willingness and ability to advocate for a strong public health system.

89. For the respective indicators, the majority of national experts indicated potential for further capacity building. Regarding clearly identifiable leaders in the public health sector that promote public health in the health system (2.4.1), 16 national experts reported at best partially developed capacities. Leaders for public health were reportedly mainly situated at the non-political level, for example at National Institutes for Health, the national associations for public health or other public health-related organisations. In addition, many NGOs and advocacy groups were reported to be active leaders in their particular fields (e.g., anti-tobacco initiatives, cancer associations, associations for food quality standards). Leadership capacity to advance health equity and to address the social determinants of health (2.4.4) were relatively weak with 22 national experts reporting not fully developed capacities. Well-developed capacities for this indicator were only reported from Belgium, the Netherlands, Poland and the United Kingdom.

90. Leadership capability to advocate for public health across governmental sectors was not well developed in the majority (19) of countries (2.4.2).

91. There was a lack of capacity with regards to the promotion of public health issues on the political agenda. The majority of reports (20) concluded that leadership capacity was insufficient. In this regard, the public health experts commented that reluctances exist to take on public health as an important 'hard' political issue at the highest governmental levels. As a consequence, many experts acknowledged that they regularly experienced a sense of lacking responsibility and commitment at the relevant levels of decision making in their respective countries. The reasons for this are less clear but political commitment has been considered as an important prerequisite for the effective functioning of public health.

Table 5: Overview of experts' answers to: Leadership in the health sector

Indicator	Mean	SD	Not developed	In early stage or partially developed	Fully developed	Indicator below country average (Relative weakness)	Indicator above country average (Relative strength)
2.4.1 There are clearly identifiable leaders in the public health sector who provide a credible voice for the promotion of public health in the health care system	4.2	1.1	2	14	10	9	17
2.4.2 There are clearly identifiable leaders in the public health sector who provide a credible voice for public health across governmental sectors	3.7	1.3	8	11	7	13	13
2.4.3 There are clearly identifiable leaders in the public health sector who promote public health on the political agenda	3.9	1.2	4	16	6	14	12
2.4.4 There are stakeholders for public health take who are taking a leading role in establishing partnerships with other sectors to advance health equity and address the social determinants of health	3.5	1.2	4	18	4	21	5

Strategic visioning

92. Strategic visioning and systems thinking refers to the capacity to establish a medium and long-term view and planning for health, including the establishment of public health as part of a broader governance system, which sees health as a cross-cutting issue across different sectors (e.g., Health in All Policies). As such, it forms an important aspect for the further development of public health capacities through the formulation of goals and objectives.

93. In the Leadership and Governance domain, this component received the lowest average score. In general, a very diverse picture evolved across Member States with all indicators ranging from 'not developed' to 'fully developed'. Two issues have been assessed as slightly positive by many experts: medium and long-term planning for public health development (2.5.1) and awareness of the need for capacity building in the Ministry of Health (2.5.4). For both indicators, 12 national experts reported fully developed capacity. In terms of strengthening the capacity of public health organisations (2.5.3), seven experts reported respective efforts and plans in their countries whereas 18 experts appraised this as not well developed.

94. The qualitative comments from the experts showed that strategies and planning for public health often did not go beyond a formulation phase and that only limited financial resources had been allocated to implement these strategies in practice (see also section on financial resources and on policy making for public health). In addition, the case study analysis illustrated that strategic planning often adhered more towards legislative periods rather than long-term public health priorities, especially if the success of the public health policy was expected to only become visible after the legislative period. Therefore, despite the fact that various National Health Programmes are proof of available capacity to formulate extensive and long-term policies for public health, it still needs to be further evaluated to what extent the intended actions are ultimately realised in practice and what their impact is on population health. Such evaluations are highly important but very scarce across the EU.

Box 5: Examples of good practice in Strategic Visioning

Portugal: New public health programmes

The general objective of the current Portuguese Public Health Programme 2009–2014 is "to improve the health status of the population, measured by major health indicators, by reducing health inequalities in access, utilisation and health outcomes between groups, taking into account age, gender, socio-economic status, geographical context and ethnical characteristics."

Sweden: Long-term commitment to public health

From the international perspective Sweden, has a long tradition of pursuing what is now referred to as public health policy. The wide diversity of measures implemented over the last 250 years has had an impact on people's health and life expectancy, although this development cannot be ascribed to public health measures alone. Sweden adopted a national public health policy in 2003. The policy states that public authorities should be guided by 11 objective domains that cover the most important determinants of Swedish health. The policy was updated in 2008. While the core content of the 2003 policy remains, greater elements of individual choice and responsibility are added in the renewed policy. The renewed public health policy focuses on children, young people and the elderly, especially on initiatives aimed at strengthening and supporting parents in their parenthood, increasing suicide prevention efforts, promoting healthy eating habits and physical activity, and reducing the harmful use of alcohol and tobacco.

England: Evaluation of national health strategy

In England, the impact of the 'Health of the Nation' strategy (1992–1997) was evaluated to provide lessons for a new strategy (Fulop et al. 2000). Through case studies, semi-structured interviews as well as analyses of documents and financial expenditures, the evaluation provided insights into critical success factors as well as into barriers of effective implementation.

Table 6: Overview of experts' answers to: Strategic visioning

Indicator	Mean	SD	Not developed	Early stage or partially developed	Fully developed	Indicator below country average (relative weakness)	Indicator above country average (relative strength)
2.5.1 Strategies and planning encompass a medium to long-term planning for public health development (5–10 years)	4.0	1.5	6	8	12	12	14
2.5.2 Strategies and planning include achieving a defined set of health targets as a measure to evaluate progress	3.6	1.5	7	10	9	15	11
2.5.3 Strategies and planning include enhancing the capacity of public health-related institutes/organisations/agencies	3.7	1.3	4	14	7	12	13
2.5.4 There is awareness of the need to support implementation of public health capacity building in the MoH	4.0	1.2	3	10	12	11	14
2.5.5 The government supports strategic planning for public health capacity through improving synergies across sectors, policies and programme areas (e.g., health in all policies)	3.4	1.2	8	12	6	16	10
2.5.6 Policy statements in other sectors, relevant to public health, contribute to public health goals and objectives	3.6	1.1	5	15	6	17	9

Strenghts, weaknesses and recommendations

95. Well-developed leadership and governance capacity should contribute to effective policy making in all areas and should ideally foster political support for public health. As developments in these areas impact on all capacity domains, the Leadership and Governance domain can be seen as an overarching element for effective capacity strengthening. In particular, it plays a steering role in the systems' general ability to meet current requirements, react and respond to new requirements and to develop visions for future needs and activities. The analysis of scores from the capacity assessment in combination with additional information provided by the national experts as well as from literature, case studies and appreciative inquiry revealed a variety of strengths and weaknesses for the Leadership and Governance domain at European level. These strengths and weaknesses were presented at policy dialogues to national stakeholders for further validation. A summary of the identified strengths and weaknesses can be found in the following table.

Table 7: Summary of strengths and weaknesses in the Leadership & Governance domain

Leadership and Governance	
Strengths	**Weaknesses**
• National legislations provide outlines on responsibilities and accountabilities to set up structures to assess, protect and promote the health of the population • Traditional areas for public health (e.g., communicable disease control, health protection) have been institutionalised in ministries and corresponding departments exists • Ministries of Health and National Institutes for Health take a leading role in advocating for public health on the political agenda • Many National Health Programmes present the desired future developments, indicating the recognition of a strategic vision for further public health development	• Some national and regional competences for public health are not well defined • Compared to communicable disease control public health resources focusing on behavioural, social and environmental determinants are under developed • Health care (as opposed to public health) policies and reforms dominate political health discourse. Public health policies are not considered as a high priority, therefore receiving less political and financial support • Public health thinking (putting emphasis on prevention and interventions lying outside of the health care system) is a poorly developed in many administrations

• Various stakeholder organisations actively pursue the interests of public health issues and thereby provide voices for specific public health issues • Effective professional associations for public health exist in many countries with the commitment to lobby for more public health-oriented policies and practices on public health governance	• Priorities for public health policies are linked with political will and may thus be fragile in times of political change • Public health priorities often lack an adequate evidence base • Some of the countries with the least well-developed public health policies have the least well-developed professional organisations for public health • Health in All Policies is still weak across sectors and across different levels of administration and this is linked to weaknesses in public health leadership • Insufficient policy dialogue and stakeholder involvement in public health policy formulation • Only very few politicians with extensive interest and knowledge of public health • Health Inequalities, Health in All Policies and the Social Determinants of Health have not consistently found their place in national public health policy formulations • Processes of monitoring, evaluation and adaptation of public health policies have not been systematically institutionalised • Strategies and plans for public health are often not supported by funding schemes or other resources, which forms a barrier for actual implementation • Some Ministries of Science view public health research as a responsibility of the Ministries of Health

95. Key recommendations from the experts are closely linked to the remaining domains covered by this assessment. In summary, national experts´ suggested to:

- create political support for public health policies by building partnerships in other sectors and by highlighting the advantages of good public health policy (e.g., by addressing

issues like well-being, equity, economic costs and benefits of public health compared with healthcare, contribution to sustainability of healthcare system etc.);

- develop a better visibility, standing and acknowledgement of the public health issues at national, regional and local level (in particular in relation to the healthcare sector);

- create stronger voices for public health by identifying relevant stakeholders and organising stakeholder involvement and partnerships (e.g., with NGOs, the civil society, the private sector, international organisations, government); develop vertical (from local to international level) and horizontal partnerships (cross-sectoral cooperation);

- push for the development and implementation of supportive public health regulations for the fields of old as well as New Public Health, including HiAP, the social determinants of health and health inequities;

- develop medium and long-term plans (linked with the sustainability of resources, increased visibility for public health and priority setting);

- build up internal capacities in ministries for policy making based on best practices, prioritisation of resources and health needs;

- strengthen the cyclical processes of monitoring, evaluation and adaptation of public health policies requires. A continuous monitoring and evaluation process needs to be in place at national, regional and local level to allow adaptation and changes based on efficiency, priorities and needs. Monitoring and evaluation procedures need to include analysis of the distributional impacts that policies and programmes have among the social gradient;

- strengthen the cooperation with academic institutions, build up and use scientific capacity; develop an interface management for the effective dissemination of knowledge and realise effective policies by basing arguments and action on evidence base;

- discuss further the role of existing strategies for health (e.g., WHO country strategies) for Member States. These strategies are often supposed to provide vision, but compliance and implementation often seem to lack behind.

4.2.2 Organisational Structures

96. The Organisational Structures domain refers to available systems and infrastructures that allow the effective execution of public health activities and services. Due to many contextual, historical and cultural influences, the organisational structures of the public health systems differ significantly between EU Member States. Even across countries that appear to be similar in their systems of organisation (e.g., Sweden and Finland), important differences of detail exist (Allin, Mossialos et al., 2004). Many national experts also stated that a distinct public health system could not be defined due to several functions being fulfilled by different sectors and authorities in the Member States.

97. In most countries, the medical health sector takes over many important public health functions. In addition, actors from other areas (e.g., social services, urban planning, and environmental protection) were reported to play significant roles for public health. In addition to the complexities and diversities of public health structures across countries, experts stated that even within countries, the scope and quality of public health service delivery can vary substantially across regions and municipalities (see Box 6).

Box 6: Example of regional differences

Italy: Health and infrastructure

As Italian regions exercise their autonomy very differently, northern regions have been more successful in establishing effective structures for public health, programme delivery and health monitoring as compared to regions in the south. The regional variations reflect differences in contextual, political, economic and cultural factors as well as differences between regional health systems.

98. As an in-depth assessment of all organisational structures across the EU Member States was considered beyond the scope of this assessment, it was decided to evaluate the existing structures on the basis of the following four selected sub-domains:

- Institutional capacity for public health
- Programme delivery structures
- Public health aspects of health care services

- Capacity to respond to public health emergencies

99. Across all domains, the component 'Capacity to respond to public health emergencies' received relatively high scores on average. The component concerned with institutional capacity for public health also received a relatively high average and the remaining two components scored lowest within this domain.

Table 8: Average scores for each component

Organisational Structures				
Component	**Institutional capacity for public health**	**Programme delivery structures**	**Public health aspects of health care services**	**Capacity to respond to public health emergencies**
EU average:	4.2	3.8	3.7	4.9
Standard deviation (SD):	1.1	1.1	1.3	0.7

Institutional capacity and programme delivery structures for public health

100. Institutional capacity and programme delivery structures refer to the existence and capacity of organisations in public health to support, plan and manage the delivery of public health services. The most relevant and essential tasks in this regard refer to the institutional capacity to monitor and assess the public health needs of the population and to plan and execute public health programmes accordingly. For all EU countries similar structures exist regarding the delivery of these services in which a central body at national (and sometimes regional) level acts as the highest authority (and responsibility) for monitoring the public health needs and for developing corresponding programmes.

Box 7: Examples of public health service structures

Cyprus

Public health services are provided through a network of hospitals, health centres, sub-centres and dispensaries. Most of the system's organisational, administrative and regulatory functions take place at state level; the lower administration levels cooperate with the central administration primarily for the implementation of public health and health promotion initiatives. The Department of Medical and Public Health Services is the central authority for delivering public health services. Its mission is to improve and safeguard the health and well-being of people in Cyprus and prevent illnesses in line with the principles stipulated by the World Health Organisation and within the framework of the European perspective.

France

The Agences Régionales de Santé (ARS) are decentralised agencies in each of the 24 French regions that participate in regional assessment as well as protection and promotion of population health. ARS deliver health services at local level, including promotion and protection of health. They are coordinated by the Secrétariat Général des Ministères Sociaux, based in the Ministries of Health, Social Affairs and Social Security. 'Hôpital, Patient, Santé, Territoire' (July 2009) is a major law pertaining to regional organisation of health services in an integrated policy that promotes comprehensive health services and preventive measures on the local level.

Slovakia

Like other Central and Eastern European countries, Slovakia is in transition from a directive, centralised political system to a democratic market economy. In the old system, public health services comprised prevention and control of communicable diseases, environmental hygiene, child and youth hygiene, food safety and nutrition, preventive occupational medicine, protection against ionizing radiation, epidemiology and medical microbiology, and monitoring and analysis of the health status of the population. Health education and health promotion were added in 1995. The future development of public health is expected to be influenced largely by the harmonisation process resulting from Slovakia's membership to the EU.

101. In general, responses to the institutional capacity and the programme delivery structures components showed large variation across Member States. The ability of public health authorities for needs assessments for disease prevention, health education and promotion was reported to be fully developed by 15 countries, with an additional nine countries to have these capacities partially in place (3.1.1). The existence of an organisation with the mandate for public health and health promotion as well as for addressing life style determinants (3.1.6) was acknowledged by virtually all experts. Notably, organisations' mandates for health equity and the social determinants of health (3.1.5) were less well clearly established and for 17 countries, this was reported to be at best partially developed. Some expert´s general observations highlighted the need for capacity at the local service level, since many local-level organisations were often

struggling to maintain the current status due to shortages and cuts in financial and human resources. This impression was further highlighted by the case studies, which reiterated the fact that financial resources were often insufficient, and that prioritisation was not always based on evidence or needs.

> *"There is a need to ensure active leadership at local level to mobilise stakeholders and ensure sustainability of the public health intervention, with the national / central level providing guidance and support."* – Case study analysis

102. Corresponding mechanisms to provide technical assistance to the local-level administrations (3.1.3) were evaluated by most experts as only partially developed. 14 experts provided scores lower than their national average to this indicator, which can be interpreted as a substantial weakness, since sufficient capacity at the local level was regarded as the backbone of any implementation of policies and programmes.

Box 8: Examples of weaknesses in local-level financial support

Lithuania

Currently there are no clear guidelines on the amount of money that should be allocated from the municipal budget to each public health bureau for the implementation of public health functions. Some local public health bureaus are facing considerable financial difficulties.

Germany

The 'Öffentlicher Gesundheitsdienst' is a state-run system of public health offices managed by the local communities. The functioning of this infrastructure for public health is limited due to the difficult financial situations in some cities and communities (who fund the public health offices).

103. With regards to programme delivery structures, countries´ scores were moderately positive concerning the comprehensiveness and effectiveness of the organisational structures to deliver public health programmes (3.2.1). In 11 countries, capacities were fully developed whereas 14 reported at least partially developed capacities. For Latvia, these capacities were reported not to be sufficient due to the recent downsizing of public health infrastructures. Regarding the sensitivity of universal programmes for more vulnerable groups, only three experts fully acknowledged sufficient capacity (Sweden, the Netherlands, Belgium; 3.2.4). In the large majority of countries, this was at best only partially considered. The corresponding delivery of specific public health programmes and interventions targeted at more vulnerable groups was therefore also considered only by three countries as fully sufficient (3.2.5).

104. Mechanisms for the evaluation of programme implementation were considered by six national experts as fully developed and in nine countries capacities for this were not sufficiently developed. For 21 countries this value received scores that were below the respective national average scores, thereby indicating a relative weakness. Furthermore, in many countries, where health inequalities are increasing, especially between urban and rural areas, the existing administrative capacity was claimed to be insufficient to address these growing health inequalities as a priority.

105. The scores for these components draw a recurrent picture of public health capacity in the Member States. While responsibilities and mandates for certain 'old' public health functions are relatively well established, this is less clear when addressing health equity and evaluation issues.

106. As previously outlined by the national experts, public health and health promotion were considered low priority agenda items by many governments. More recently, the economic crisis had resulted in reductions of funds, with medical health services becoming even more a priority on the political agenda for health. As a result of this, some public health and health promotion programmes and interventions have been scaled down as public funds were cut off (e.g., Latvia, UK and Bulgaria). Therefore, the importance of long-term financing and commitment to the organisational structures for public health was reiterated by most of the country experts in the case studies presented and a lack thereof was often experienced.[10]

> *"Lack of adequate funding and resource allocation has led to an interruption of programmes and interventions, delays in achieving public health goals, and difficulties to address specific public health priorities or needs."* – Case study analysis

107. Various reforms in the (public) health sector are currently ongoing in many countries.[11] While the outcomes of these reforms still need to be evaluated in the future, some experts anticipated a negative impact on the provision of public health services, as resources are likely to be

[10] Case studies from Estonia, Latvia, Lithuania, Bulgaria, Romania, Sweden, Austria and Spain

[11] Ongoing or recent reforms were reported by Cyprus, UK, Spain, Czech Republic, Latvia, Lithuania, Finland and Greece

downsized. Consequently, many national experts were concerned that the current infrastructures were at risk in across Europe and in some countries this has already become a reality (Box 9).

108. Although precise statements on the level of capacity in certain regions were difficult to make due to the many different situations between and within countries, regions and even municipalities, the importance of the regional and local level in planning, developing and implementing public health programmes was acknowledged by most country experts and also addressed in their case studies. The question to what extent the setting of health targets can contribute to improved planning and governance for public health cannot be answered conclusively. Given the different application of health targets in some European countries, generalised statements on the benefit of such targets for public health can hardly be made and each health target process should be considered in the particular context.[12]

[12] For more information on the use of health targets in Europe, see: Wismar M, McKee M, Busse R, Ernst K. Targets for health: uses and abuses. Brussels: European Observatory on Health Systems and Policies, 2008.

Box 9: Examples of public health systems under pressure

Latvia: Downsizing public health

Up until its closure in September 2009, the leading organisation was the Public Health Agency. The reason given to the public was the need to reduce expenses and use national resources better, especially in the administrative sector of government. In 2010 the state announced it would stop public health promotion activities. Currently the public health system is substantially downsized. This is expected to negatively influence the health and well-being of the Latvian population in the future.

Bulgaria: Insufficient financial contributions to public health programmes

Public health programmes are under-financed. Often even promised funds are withheld when needed and programmes remain unfinished. Currently, the sole priority of national health policy is the economic effectiveness and quality of hospital services. Public health improvement should be set as a priority and sufficient staffing and financial resources provided.

Germany: Public health a 'soft' political item

In times of economic hardship, measures for health promotion or prevention are often considered first for downsizing. Cost containment in the medical sector dominates the national debate. Since life expectancy of the population is already high and still growing, many politicians do not see the necessity for developing a strict public health agenda, as these indicators imply positive developments.

Table 9: Overview of experts' answers to: Institutional capacity

Indicator	Mean	SD	Not developed	In early stage or partially developed	Fully developed	Indicator below country average (relative weakness)	Indicator above country average (relative strength)
3.1.1 Public health authorities can assess population needs for disease prevention, health education and health promotion	4.5	1.1	2	9	15	4	22
3.1.2 Public health authorities have mechanisms and expertise to assess cost effectiveness of interventions and plan resource allocation	3.3	1.3	7	14	5	20	6
3.1.3 National/ regional mechanisms provide technical assistance and improve public health actions at local level	3.7	1.0	3	18	5	16	10
3.1.4 National/regional institutes/agencies have a clear mandate for public health and health promotion	5.0	0.9	0	8	17	4	21
3.1.5 National/regional institutes/agencies have a clear mandate on health equity and the socio-economic determinants of health	3.6	1.3	6	11	8	14	11
3.1.6 National/regional institutes/agencies have a clear mandate on lifestyle health determinants (nutrition, tobacco, alcohol)	4.8	0.9	0	9	16	3	22

3.1.7 Health status and related determinants are periodically analysed. Findings are used to identify priorities/ develop interventions	4.2	1.2	2	14	9	10	15

Table 10: Overview of experts' answers to: Programme delivery structures

Indicator	Mean	SD	Not developed	In early stage or partially developed	Fully developed	Indicator below country average (relative weakness)	Indicator above country average (relative strength)
3.2.1 The existing regulatory and organisational structures are comprehensive and effective for the implementation of public health policies and programmes	4.5	1.0	1	14	11	6	20
3.2.2 Within the regulatory and institutional framework, responsibilities and accountability of organisations for the implementation of disease prevention programmes are clearly specified	4.4	1.1	1	12	13	7	19
3.2.3 Within the regulatory and institutional framework, responsibilities and accountability of organisations for the implementation of *health promotion* programmes are clearly specified	4.2	1.0	1	16	9	10	16
3.2.4 Organisations/units are delivering *universal* public health programmes and interventions that *are sensitive* to specific needs of more vulnerable groups (such as: adolescents at risk, socio-economically disadvantaged, migrants, ethnic minorities and others)	3.7	0.9	2	21	3	14	12
3.2.5 Organisations/units are delivering *specific* public health programmes and interventions that are *targeted* to the needs of more vulnerable groups (such as: adolescents at risk, socio-economically disadvantaged, migrants, ethnic minorities and others)	3.3	1.2	6	17	3	18	8

3.2.6 Organisations/units are accountable for the sensitivity of their programmes with regards to gender and other cultural, social or linguistic dynamics	3.3	1.3	9	12	5	19	7
3.2.7 Mechanisms to monitor and evaluate public health and health promotion *programme implementation* are in place	3.3	1.4	9	11	6	21	5

Public health aspects of health service organisation

109. The integration of public health services, disease prevention and health promotion strategies into traditional health care service infrastructures is considered a very important aspect for successful public health service delivery.

110. Scores across countries were relatively heterogeneous, ranging from 'capacities not developed' to 'capacities fully developed and functioning well'. Although, detailed descriptions of how public health has been integrated into the health care sector per country are beyond the scope of this assessment, insights could be gained for certain characteristics relevant to all countries.

111. In the majority (18) of countries, integration of disease prevention and health promotion strategies into health care services was reported to be–at best–partially developed (12 countries) or not developed at all (six countries) (3.3.1). On the other hand, in many Member States services such as vaccination were regularly situated in the primary care setting.

112. Significant weaknesses were also identified in the capacity of health care services to assess population needs for disease prevention (3.3.3.) and health promotion (3.3.4). These were reported to be at best partially developed in 17 and 20 out of 27 countries, respectively. This implies the possible need for further work to identify what actions are needed to strengthen capacity in this area.

113. The capacities for assessing the cost effectiveness of interventions were reported not to be developed in 11 countries (3.3.5), which implies the need for further research capacity in this matter. Regarding mechanisms to ensure equity (3.3.8) and appropriate response mechanisms to vulnerable groups (3.3.9) capacities were reported to be fully developed by only a small minority, seven and six countries, respectively.

Table 11: Overview of experts' answers to: Public health aspects of health care services

Indicator	Mean	SD	Not developed	In early stage or partially developed	Fully developed	Indicator below country average (relative weakness)	Indicator above country average (relative strength)
3.3.1 Disease prevention and health promotion strategies are integrated into health care services	3.6	1.2	6	12	8	16	10
3.3.2 Health care services are able to assess the needs of the population for *primary care*	3.5	1.6	7	9	8	13	11
3.3.3 Health care services are able to assess the needs of the population for *disease prevention*	3.7	1.4	5	12	7	13	11
3.3.4 Health care services are able to assess the needs of the population for *health promotion*	3.2	1.4	7	13	4	17	7
3.3.5 Health care service organisations have mechanisms and expertise in place to assess cost effectiveness of interventions and to plan for resource allocation	2.9	1.6	11	10	4	19	6
3.3.6 Disease prevention and health promotion services are delivered through *primary care services*	4.0	1.2	2	12	9	9	14

3.3.7 Disease prevention and health promotion services are delivered through *maternity and newborn care services*	4.6	1.2	1	8	15	4	20
3.3.8 Mechanisms and structures are in place to ensure no differences in access to disease prevention services due to gender, disability, socio-economic status, ethnicity, race, religion, geographical area, etc.	3.9	1.3	4	14	7	12	13
3.3.9 Mechanisms and structures are in place in health care services to respond to the needs and priorities of disadvantaged or vulnerable groups	3.8	1.3	4	14	6	12	12

Capacity to respond to public health emergencies

114. The capacity to respond to public health emergencies refers to the measures Member States use to ensure that national mechanisms and policies are in place to face emergencies that may threaten the health of the population. The experience in Europe with the emergence of H1N1 influenza acted as a reminder of the importance of national procedures to deal with emergencies and strengthening capacity has been widely considered as a suitable response (UK Health Protection Agency, 2010). Outbreaks of potential diseases are often likely to involve more than one European country and the decreasing role of borders in the EU requires a more coordinated approach to the surveillance of communicable diseases. Considerable variation exists in infrastructures, capacity and performance of surveillance systems (Reintjes, Thelen, Reiche, & Csohán, 2007).

115. Overall, the scores for the various indicators were relatively homogenous across countries and all indicators were reported to be at least partially developed. All experts confirmed that their country had a system designed to identify potential threats to population health (3.4.1). In addition, most countries have a network of laboratories capable of supporting investigations of public health problems, hazards and emergencies at their disposal (3.4.2). National plans for expected (3.4.3) and unexpected (3.4.4) public health emergencies exist in virtually all countries. However, plans for unexpected emergencies (e.g., bioterrorism, natural disasters) are slightly less well-developed across countries than for expected threats (e.g., influenza) although the functioning of these emergency systems has not often been put to actual emergency test. The recent e-coli outbreak in Germany has shown that although infrastructures and procedures may in be place, their actual performance needs to be scrutinised more in detail. Further appraisals of the performance of these infrastructures were therefore considered to be necessary.

116. In addition to the results from the assessment tool, case studies from Malta and Greece illustrated the availability of relevant capacity in the case of public health emergencies. While the Maltese case study addresses the developments following the pandemic threat of the H5N1 virus in 2005, the Greek case study elaborated on the West Nile Virus epidemic of 2010. Accordingly, the Maltese case study showed that additional EU support in the forms of sharing expertise, provision of medicine including antivirals and vaccines, and assistance in the development of facilities needed to manage cases of pandemic influenza (intensive care services and laboratory capacity) would have been beneficial to tackling the pandemic.

117. Similarly, the Greek case study on a West Nile Virus epidemic from 2010 showed that although Greece had the capacity to deal with a pandemic of this kind, additional partnerships at international level would have been beneficial. In its suggestions for EU support, the case study calls for support in training activities for public health professionals, improved collection and evaluation of routine data and ensuring that the public health services at all levels are sufficiently well organised to deal with all public health issues that arise. The case study highlighted the cooperation with the European Centre for Disease Prevention and Control (ECDC), established from the very beginning of the epidemic to ensure that all the necessary expertise from the European level was immediately available. This shows that ECDC can be a substantial contributor in strengthening and supporting national capacity in public health emergencies. The need of such an institution to coordinate infectious disease outbreaks in Europe has been widely acknowledged, but whether it will prove effective in the face of a major disease threat to the EU remains to be questioned, mainly because funding is considered too little (The Lancet, 2008).

Table 12: Overview of experts' answers to: Public health emergency capacity

Indicator	Mean	SD	Not developed	In early stage or partially developed	Fully developed	Indicator below country average (relative weakness)	Indicator above country average (relative strength)
3.4.1 A system designed to identify potential threats to population health is in place at country level	5.1	0.8	0	6	20	3	23
3.4.2 There is a network of laboratories capable of supporting investigations of public health problems, hazards and emergencies	5.0	0.7	0	7	19	2	24
3.4.3 National plans are in place at governmental level to address *expected* public health threats	5.1	0.5	0	2	24	1	25
3.4.4 National plans are in place at governmental level to address *unexpected* public health threats, such as: emergencies linked with deliberate acts	4.7	0.8	0	11	15	5	21
3.4.5 Coordination mechanisms, analysis and communication tools are in place to ensure inter-operability of national plans	4.4	0.8	0	15	11	6	20

Strengths, weaknesses and recommendations

118. The analysis of scores from the capacity assessment combined with additional information provided by the national experts as well as from literature, case studies and appreciative inquiry revealed a variety of strengths and weaknesses for the Organisational Structures domain at the EU level. These strengths and weaknesses were presented at policy dialogues to national stakeholders for further validation. A summary of the identified strengths and weaknesses can be found in the following table.

Table 13: Strengths and weaknesses in Organisational Structures

Organisational Structures	
Strengths	**Weaknesses**
• Infrastructures for service delivery in place at national, regional and local level, maintaining relevant public health activities and granting virtually universal access to the population • Systems designed to identify potential threats to population health exist across Member States. The vast majority of countries have established national and regional emergency management systems • Public health stakeholders have recognised the need for strong collaboration between health care and public health services. Promising collaborations and distributions of tasks have therefore been established • Member States' responses to the pandemic H1N1 influenza showed that resources can be quickly mobilised and action can be coordinated if a severe threat to public health is perceived • Networks of laboratories, capable of supporting investigations of public health problems, hazards and emergencies are available	• Although integration of health care and public health already exists, the health care sector's capacity to contribute to social determinants of health and health inequalities is not yet exhausted • Little effort taken to ensure that all health care providers focus on health promotion and disease prevention in their daily work • Inadequate mechanisms to monitor and evaluate the implementation of public health and health promotion programmes • Financial and human resource constraints do not permit implementation of all programmes and activities based on the actual needs of the population • Inadequate delivery of public health programmes and interventions sensitive to specific needs of vulnerable groups at risk (e.g., adolescents, socio-economically disadvantaged groups, migrants, ethnic minorities and others) • Inequalities persist in organisational structures across regions and municipalities in countries. Disparities between regions were highlighted especially in some decentralised systems

	• Low awareness and knowledge on health inequalities and their socio-economic determinants, which is enhanced by lack of evidence, information and data on this topic at both national and regional level • Lack of consensus among European countries on the role, extent and limits of public health work in accepted domains of public health practice; lack of consensus on the skill mix required in public health departments • Lack of consensus on the organisation of public health systems, including departments at national, regional and local levels, with appropriate accountability arrangements

119. Analysis of the experts' pooled results indicated that it was particularly important to:

- define and share responsibilities for public health functions clearly between higher and lower levels of authorities;
- acknowledge the relevance of the local level in the implementation of national/regional programmes for public health infrastructure and public health capacity building.[13] This requires:
    - adequate financial and human resources at the local level;
    - technical support for local-level activities from the regional and national level;
- implement formal mechanisms to prioritise activities (e.g., health targets, based on health needs and resources);

[13] See also: case studies on relevance of local level for realising national/regional strategies, Appendix D of Supplement)

- ensure the proper functioning of inter-organisational cooperation of public health organisations across regions and municipalities (relevant differences in organisational structures have been reported, especially for decentralised countries);

- cooperate with health care services and motivate health care service actors to become more active on public health issues by integrating services linked with disease prevention; health protection and health promotion into the practice of health care service delivery (training and incentives on both sides might be needed);

- strengthen regional and local capacities through monitoring and documenting the public health service organisations' practices and approaches adequately. This way, good practice could be easier translated to other local agencies and contexts;

- notwithstanding the controversial debate about this topic, for health systems with a social health insurance structure, some experts recommended that health insurers could play a stronger role in the organisational structure of public health services.

Links with other domains

120. Any financial and human resources are generated and used in an organisational and institutional environment. Together they build the infrastructure to deliver public health services. Links with the Leadership and Governance and Knowledge Development domains are evident. Especially the recommendations for the local level are strongly related to requests for supportive policies, based on effectiveness and best practices. Partnerships were also seen as an opportunity to generate resources and raise questions about the respective organisational and institutional form of public health services.

4.2.3 Workforce

121. Ageing populations, increasing health inequalities and changing disease patterns in Europe underline the necessity for efficient and sustainable public health workforces to be available in the future. As the impact of these changes becomes increasingly apparent, there is a need to better understand the shape and trends in the public health-related (non-medical care) workforce.

122. The experts' comments showed that the public health workforce was often intertwined with the health care workforce, with doctors and nurses taking over many public health service functions. Less visible actors such as social workers or teachers also fulfil relevant public health activities through their involvement in programmes and their daily activities to improve the health of the population. In other words, the workforce responsible for public health activities is engaged in many sectors and is not only limited to the health sector.[14]

123. This section provides an overview of public health workforce capacity across the EU Member States. In this context 'public health workforce' relates to all individuals involved in the prevention, promotion and protection of population health (as distinct from activities directed to the medical care of individuals).

124. For the Workforce domain, four components were assessed in detail:

- Availability and distribution of workforce;
- Competencies of the workforce;
- Training and development opportunities;
- Professional associations.

[14] The question of who belongs to the 'public health workforce' was hard to answer in the assessment. Many experts claimed that valid enumeration was very difficult, if not impossible. Despite the problems in providing quantitative estimates of the public health workforce, the experts' descriptions of their experience with the current status still provided relevant information on the situation in their country.

125. While the availability, distribution and competencies of the public health workforce received relatively low average scores across countries, scores for the components training and development and professional associations were higher (Table 14).

Table 14: Average scores for each component

Workforce				
Component	**Availability and distribution**	**Competencies of the workforce**	**Training and development opportunities**	**Professional associations**
EU average:	3.2	3.2	4.0	3.8
Standard deviation (SD):	1.2	1.5	1.4	1.5

Availability and distribution of the public health workforce

126. The existence and appropriate allocation of a qualified public health workforce to achieve the strategic goals of the public health system are necessary for effective delivery of services and activities. In general, Europe is already short of health professionals. Estimates vary from a few hundred thousand up to one million by the year 2020 (Albreht, 2011). Although this figure includes medical personnel and support staff, it implies a general trend towards an increased need for *public* health staff in the EU Member States. This coincides with the findings from the assessment. Indicators for the 'availability and distribution' component received relatively low scores in general. Only Cyprus, France, Belgium and Malta reported 'fully developed' capacities for some indicators.

127. In general, the assessment reiterated that a clearly distinguishable workforce for public health has neither been defined nor formally established in the vast majority of Member States. As a result, statistics or registries on the public health workforce are most often not available in the same way as they are for other professions in the medical health sector (e.g., registries for physicians, general practitioners, nurses, dentists and pharmacists). The majority of experts stated that the public health workforce was not fully developed enough to address all population needs (4.4.1). Efforts to better understand and possibly enumerate the public health workforce are ongoing in only a few countries (see Box 10). Congruently, 14 countries reported not having a

strategy to develop the public health workforce and ten countries reported only having this partially in place, mostly as part of general health workforce strategies (4.1.3). The lack of well-developed workforce strategies was often attributed to a common ambiguity in the scope and role of public health and its corresponding workforce. Nevertheless, it was acknowledged that such a strategy could provide guidance on strengthening the capacity in this regard. In terms of adequate geographical distribution, most experts reported room for improvement (4.1.2). Various countries reported regional differences in quality of public health service delivery, which is also linked to the adequate availability of workforce capacity (e.g., Spain, Italy). The adequate representation of functions (4.1.4) and backgrounds (4.1.5) of the people working in public health were also considered widely underdeveloped. Across countries, an estimated 5–35% of people currently working in clearly identifiable positions for public health had undergone some sort of public health training or education, which was considered insufficient by the large majority of national experts.

Box 10: Examples of good practice in developing Workforce

Malta

The Ministry of Health in Malta is currently working on a general workforce/human resource plan, including the public health sector. The 2020 workforce projections for the public health workforce in the Directorate of Environmental Health estimate the need for an additional 42 environmental health officers and ten scientific officers.

United Kingdom

Contemporary thinking in the UK is on developing a workforce for public health rather than focusing just on those who deliver any form of health care including nurses and doctors. However, an enumeration of the public health workforce is problematic as it is located in diverse organisations and ambiguous in exclusion criteria. Recent assessments have not been comprehensive, as many public health practitioners are employed in local authorities or primary care organisations. Nevertheless, the number of people involved in public health activities is relatively high and England (along with the rest of the UK) is unique in having a competence framework that encompasses the whole public health workforce at all career levels, albeit not (yet) fully operational, monitored or quality assured.

Table 15: Overview of experts' answers to: Availability and distribution of the public health workforce

Indicator	Mean	SD	Not developed	In early stage or partially developed	Fully developed	Indicator below country average (relative weakness)	Indicator above country average (relative strength)
4.1.1 The public health workforce is sufficient in numbers to address the population needs	3.7	0.9	2	21	3	16	10
4.1.2 The public health workforce is adequately distributed according to population needs	3.4	1.0	4	20	2	18	8
4.1.3 Public health/human resources strategy guides the development and deployment of public health workforce	2.6	1.4	14	10	1	22	3
4.1.4 The available public health workforce has an adequate distribution of functions (managers, practitioners, researchers)	3.2	1.3	8	15	3	20	6
4.1.5 The available public health workforce has an adequate distribution of backgrounds (medical, public health, psychology, political sciences)	3.3	1.1	5	19	2	19	7

Public health competencies, training and development

128. Public health competencies refer to the knowledge, skills and attitudes present in a public health workforce. Core competencies are critical to the effective and efficient functioning and practice of public health. As such, they form the basis for accountable practice and quality assurance. Public health competencies are closely linked to the training and development component. Member States and Schools for Public Health should aim to enhance the competencies of the public health workforce to meet current and future challenges.

129. For public health competencies, national experts provided a diverse picture with indicators ranging from 'not developed' to 'fully developed'. Compared to the national average, most experts gave low scores to the competencies component. A set of core competencies were reported not used by 17 countries to create a basis for accountable public health practice and quality assurance among the workforce (4.2.2.). Available core competency frameworks for general public health (4.2.3), health promotion (4.2.4) and the social determinants of health (4.2.5) were reported to be fully available in only a few countries (the Netherlands, Sweden, and Malta). Core competencies were rarely subjected to regular review processes across most Member States and were not updated in response to changes in contemporary practices for public health (4.2.6).

130. With regards to the recognition of competencies in the training and development of health care professionals (4.3.4), including competencies to work in the context of the socio-economic determinants of health (4.3.6), a slightly more positive picture evolved. Fully developed capacities were reported from 12 and 17 countries, respectively (see also the Italian example in Box 11).

Box 11: Example of good practice in training and education

Italy: 'New Public Health'

Most practitioners still work on the basis of a public health paradigm based on infectious or environmental pathways of disease. However, newer generations of practitioners are increasingly taking New Public Health issues into account. This is supported by a re-design of the graduate and postgraduate training process in the late 1990s and a stronger effort by the National Institute of Public Health to train public health personnel according to the New Public Health paradigm.

131. With regards to general capacity for training and development of public health workers, the number of institutions in Europe teaching public health and related topics of hygiene, epidemiology, and social medicine is yet not fully known (Paccaud, 2011). However, the European Association of Schools for Public Health (ASPHER) currently counts over 80 institutional members, many of which are located in the European Union (ASPHER, 2011). Notably, many countries provide education for public health only at the Master's level (Table 16). The experts regarded the programmes offered by universities to be of high quality and curricula were widely considered to prepare the students for contemporary public health issues. No public health education was reported from Luxembourg.

Table 16: Overview of countries with fully developed educational infrastructures at all levels (indicators 4.3.1–4.3.3 and country profiles)

Level of education	Number of countries	Countries
Bachelor level	13	Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, Germany, Hungary, Latvia, Lithuania, Netherlands, Slovakia, Sweden
Master Level	22	Austria, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Portugal, Romania, Slovakia, Spain, Sweden, United Kingdom
PhD level	17	Belgium, Czech Republic, Denmark, France, Finland, Greece, Hungary, Latvia, Lithuania, Malta, Netherlands, Poland, Portugal, Romania, Slovenia, Slovakia, Spain

132. However, an educational programme administered and accredited by national authorities alone, no matter how rigorous the accreditation process still lacks the international recognition that may come from a pan-European accreditation system. Master of Public Health programmes are at present evaluated or accredited by national education authorities in most countries in the EU and until recently, there was no specific accreditation system for education in public health in Europe. In response, the Agency for Public Health Education Accreditation (APHEA) was created as an independent body with the purpose of accrediting Master programmes, or their equivalent, recognised by the APHEA.

Box 12: Goals of the Agency for Public Health Education Accreditation (APHEA)

Founding members of APHEA are the Association of Schools of Public Health in the European Region (ASPHER), the European Public Health Association (EUPHA), the European Public Health Alliance (EPHA), EuroHealthNet and the European Health Management Association (EHMA).

As founders of this accreditation project, ASPHER and EUPHA contribute to strengthening public health (PH) capacity by (1) improving the quality of the PH workforce in Europe and its competitiveness globally; (2) contributing to the development and harmonisation of PH education in Europe; and (3) providing added value with regard to national quality assurance and accreditation.

133. Although most experts stated that training and development options were largely sufficient in their respective country, corresponding career opportunities and incentives for further professional development in public health and health promotion were considered to be low in the majority of countries (4.3.5). Positive examples included public health degrees substantially strengthening chances on the labour market (e.g., Lithuania) and incentives set for career development (e.g., UK). However, many national experts had a relatively negative outlook on employment opportunities in the public health sector. This forms a disincentive for young graduates to pursue a career in public health. Various Member States reported the paradox of having a good educational system and enough graduates but at the same time limited opportunities for them to work as public health professionals later on. Many experts called for a systematic strengthening of career development paths and opportunities for the highly skilled so that they could pursue careers in public health.

Box 13: Examples of career opportunities enhancement

Ireland: Additional incentives needed for highly qualified staff
In Ireland, there is a need to promote public health as a viable career-path choice. One reason is because significant pay scale discrepancies between clinical and public health specialists in medical public health act as a disincentive or deterrent to becoming involved in public health. This is reflected in an inability to recruit high-achieving doctors for public health, and training places often remain vacant.

United Kingdom: National support for career development
In the UK, national developments such as the Public Health Skills and Career Framework competency framework and a website dedicated to providing information on public health careers and how to attain them (www.phorcast.org.uk) have helped strengthen opportunities for public health graduates

Lithuania: Positive job perspectives for public health graduates from Kaunas University

Regular Alumni surveys are usually carried out 1–2 years after graduation. The recent survey showed no cases of unemployment among the respondents. The majority of Master's graduates are employed in the health sector, others in public service and pharmaceutical companies. As for career development after graduation, 75% of the graduates in 2004 and 80% of graduates in 2005 responded that their Master's degree had had a considerable impact on their career promotion.

Table 17: Overview of experts' answers to: Public health competencies

Indicator	Mean	SD	Not developed	In early stage or partially developed	Fully developed	Below country average (relative weakness)	Above country average (relative strength)
4.2.1 Competencies in public health and health promotion are subject to a public regulatory system of certification	3.7	1.5	6	14	6	15	11
4.2.2 Core competencies form the basis for accountable practice and quality assurance in public health	3.8	1.4	4	13	8	12	13
4.2.3 A set of core competencies based on international professional standards is specified for professionals working in *public health*	3.4	1.5	8	12	6	18	8
4.2.4 A set of core competencies based on international professional standards is specified for professionals working in *health promotion*	2.9	1.5	14	9	3	22	4
4.2.5 A set of core competencies based on international professional standards is specified for professionals working on *social determinants of health*	2.6	1.4	14	9	2	22	3
4.2.6 Core competencies are subjected to a regular review process and updated in response to changes in contemporary practice	3.2	1.5	9	10	6	18	7

Table 18: Overview of experts' answers to: Training and development

Indicator	Mean	SD	Not developed	In early stage or partially developed	Fully developed	Below country average (relative weakness)	Above country average (relative strength)
4.3.1 Tertiary educational programmes exist in public health at Bachelor level	3.8	1.8	6	8	12	12	14
4.3.2 Tertiary educational programmes exist in public health at Master level	5.0	1.1	1	4	21	5	21
4.3.3 Tertiary educational programmes in public health at postgraduate, PhD level	4.7	1.5	2	8	16	8	18
4.3.4 Training to develop public health competencies is part of the basic curriculum for health care professionals	4.3	1.3	1	13	12	9	17
4.3.5 Opportunities and incentives (e.g., career development options, salaries, better working conditions) exist for professional development in relation to public health and health promotion	3.0	1.5	12	9	5	19	7
4.3.6 Public health training curricula include health equity and the socio-economic determinants of health	4.6	1.2	1	8	17	7	19
4.3.7 Public administration workers from related sectors are provided with training in public health and health equity	2.8	1.4	13	9	4	23	3

Professional associations

134. The professional associations component refers to the organised, combined efforts of individuals and organisations to strengthen, safeguard and promote public health as a discipline and to support improvements in population health. Professional associations can be powerful stakeholders for public health capacity-building efforts and can act as advocates for political decision makers, also for policies in public health workforce development. They can serve as important proxies for people in public health, advocating improvements in working conditions. These organisations play an important role not only in strengthening public health capacity at all levels but also for the workforce. The assessment revealed that almost all Member States have established associations for public health (except for Luxembourg, Cyprus and Slovakia) (indicator 4.4.1). Most experts confirmed that associations address all relevant contemporary public health issues (4.4.2). In addition, most associations have established a network under the umbrella of the European Public Health Association (EUPHA). EUPHA seeks to support its members associations in increasing the impact of public health in Europe, adding value to the efforts of regions and states, national and international organisations, and individual public health experts (for an overview of national associations organised with EUPHA, see Table 19).

135. A few experts confirmed that partnerships of public health associations with associations outside the health sector were beneficial in contributing to cross-sectoral health improvements. Capacity partnerships with organisations outside the health sector (4.4.3) varied from 'not developed' to 'fully developed' across countries. However, the majority of experts confirmed a lack of partnerships with organisations outside the health sector.

136. Capacity to advocate for effective workforce development policies was regarded partially developed at best in 19 countries (4.4.4).

Table 19: Overview of national associations that are members of EUPHA

EUPHA works internationally in partnership with governmental and non-governmental organisations as well as national institutes and organisations to improve public health in Europe.

Country	National association
Austria	Austrian Public Health Association
Belgium	Belgian Association of Public Health
Bulgaria	Bulgarian Public Health Association Bulgarian Association of Epidemiology and Public Health
Cyprus	N / A
Czech Republic	Czech Society of Public Health and Management of Health Services
Denmark	Danish Society of Public Health
Estonia	Health Promotion Union of Estonia
Finland	Society for Social Medicine in Finland
France	*Société Française de Santé Publique*
Germany	German Society of Medical Sociology German Association for Public Health German Society of Social Medicine and Prevention
Greece	–
Hungary	Hungarian Public Health Association Hungarian Association of Public Health Training and Research Institutions
Ireland	–
Italy	Italian Society of Hygiene, Preventive Medicine and Public Health
Latvia	Public Health Association of Latvia
Lithuania	Lithuanian Public Health Association
Luxembourg	–
Malta	Malta Association of Public Health Medicine
Netherlands	Dutch Public Health Federation – NPHF
Poland	Polish Association of Public Health
Portugal	Portuguese Association for Public Health Promotion
Romania	N / A
Slovakia	SAVEZ – Slovak Public Health Association
Slovenia	Slovenian Preventive Medicine Society
Spain	Spanish Association of Public Health and Healthcare Administration – SESPAS
United Kingdom	Society for Social Medicine

Table 20: Overview of experts' answers to: Professional associations for public health

Indicator	Mean	SD	Not developed	In early stage or partially developed	Fully developed	Below country average (relative weakness)	Above country average (relative strength)
4.4.1 A public health association (or associations) is (are) in place as an independent professional organisation	4.4	1.5	3	8	15	6	20
4.4.2 The public health association encompasses all areas of public health, ranging from disease prevention, health education, tackling health inequalities to addressing the social determinants of health	4.0	1.6	5	9	12	10	16
4.4.3 Communication, specific links and cooperation is established between the public health association(s) and other professional associations from sectors other than health	3.2	1.3	9	14	3	20	6
4.4.4 Public health professional association(s) are involved in developing policies and regulations that refer to workforce training needs	3.5	1.5	7	12	7	15	11

Strengths and weaknesses and recommendations

137. The analysis of scores from the capacity assessment in combination with additional information provided by the national experts as well as from literature, case studies and appreciative inquiry revealed a variety of strengths and weaknesses for the Workforce domain. Accordingly the capacities for training and development of a public health workforce were relatively well developed and considered well prepared for fulfilling the current and future challenges of the public health system. Although an adequate match exists between the training and education opportunities and the need for well-trained personnel, the actual career prospects and availability of employment opportunities is insufficient in many Member States. The identified strengths and weaknesses were presented at policy dialogues to national stakeholders for further validation.

Table 21: Strengths and weaknesses in Workforce

Workforce	
Strengths	**Weaknesses**
• A large public health workforce exists in the EU (which is not recognised and supported as such, i.e., teachers, social workers etc, administrators from other sectors) • Professional associations for public health in each Member State advocate for public health issues and workforce needs and are further organised in a European network • Educational programmes in public health, ranging from Bachelor to Master and PhD levels. There is growing upward trend of programmes and number of students studying public health and related disciplines • High quality study programmes and curricula prepare students well for relevant issues including health equity and socio-economic determinants • Many people with a public health background work can contribute to Health in All Policies approach	• No reliable quantification of public health workforce in Member States. Only crude estimates are available, as the public health workforce cannot be clearly identified or distinguished from the health care workforce and people working in other sectors • Relatively few career opportunities and incentives for further professional development in public health and health promotion. A contradiction exists between provision of good education in the field and employment opportunities as public health professionals • Competencies of public health professionals are not defined by a set of standards. Awareness of the need for the adoption of core competencies, but as yet, very little has been done in most Member States • Only few strategies for development and deployment of public health workforce in Member States

• The Agency for Public Health Education Accreditation (APHEA) is an independent body established as an international non-profit association, with the purpose of accrediting Master of Public Health Programmes or their equivalent recognised by APHEA	• Some (mostly rural) areas do not have sufficient workforce capacity to meet the population needs. Large variations exist across municipalities • There is no focus on public health education of administration workers from other sectors impacting on health • Many people in public health still work according to 'old' traditional paradigm based on infectious or environmental pathways of diseases; no strong focus on social determinants of health or health inequalities • Lack of a clearly defined system for training and continued education for all employed public health staff

138. The aggregated recommendations by national experts regarding the strengthening of workforce capacity reflected these findings and suggested the following activities:

- include the development and deployment of public health workforce in national/regional strategies on health workforce development based on an enumeration of the public health workforce and taking the invisible / indirect health workforce into account. This also includes the necessity to better gather data on the actual and predicted population health needs;

- base workforce training and development (including lifelong learning) on the needs of the public health system (better coordination of supply and demand);

- set more and better incentives for qualified staff (job and career opportunities, salaries, work conditions);

- increase the percentage of public health degrees among the workforce for public health;

- develop and adopt core competencies of the (public) health workforce (e.g., by basing curricula on competency lists/frameworks); in addition, further competencies for health

promotion should be adopted as a professional standard, and accreditation mechanisms should be put in place (such as those developed within the CompHP Project of the Galway University and IUHPE);[15]

- address other topics in the academic curricular and additional training, including health law, health economics, financial management, leadership skills (managing networks, advocacy, realising a policy impact), social determinants of health and health inequalities;

- encourage Schools of Public Health to apply for APHEA accreditation to provide graduates with better (and internationally accepted) employment; furthermore, the establishment of the European system can help many institutions to improve their quality and raise their profile, thereby helping them in their ongoing planning and negotiation with the national authorities to obtain financing for teaching and learning but also research and advocacy activities.

[15] For more information, visit the IUHPE website (http://www.iuhpe.org) & the Galway Consensus: http://www.iuhpe.org/uploaded/Activities/Cap_building/Galway_Consensus_Statement.pdf

4.2.4 Financial Resources

139. Financial resources refer to the collection, utilisation, and management of funds to carry out any public health activities in the Member States. The components assessed for financial resources entailed an assessment of the generation of financial resources as well as their disbursement.

140. Due to the different organisational structures in the Member States there is no single public health financing scheme that can be assessed through a predefined formula. In fact, describing the financing of public health generally is more complex than for other sectors (Duran & Kutzin, 2010). The diversity of actors and sectors involved in public health activities complicates such an assessment significantly (See Box 14). Whereas the total expenditures of the medical health sector has been known and assessed for years, the vast majority of national experts had difficulties in providing reliable numbers for the public health expenditures in their respective countries. Nevertheless, some national experts made rough estimates of the public health spending to complete the overview.

Box 14: Examples of estimating public health funds

Belgium: Difficulties assessing public health resources

In Belgium it is difficult to estimate the resources for public health, as many activities are intertwined with health care costs and dispersed over national and regional sources of funding. For instance, physicians' honoraria for medical care are booked as healthcare expenditures but they can encompass preventive care too. The same issues hold true for public health issues including mammographies, dentist care and laboratories in public hospitals, which all fulfil preventive functions as well.

Sweden: Attempts to enumerate financial resources

A number of attempts have been made to calculate the funding for public health, but they have not been very reliable in their conclusions. Sweden has a number of state agencies (e.g. National Institute of Public Health) on the central level, in some cases with outreach to the regional level, 21 County Councils/Regions on the regional level and 290 municipalities on the local level. Budgets for public health are located at different levels and there are no systematic accounts summing up the total funding. This is partly due to the absence of a clear and generally agreed definition of what to include as 'public health'.

141. Due to the large difficulties in making accurate estimations of the spending on public health activities, many experts preferred not to report any figures at all. Based on the national experts that did report an estimate of public health spending, the average in public health expenditure

across Member States as part of total health expenditure was considered to account for 2.2%, of the total health budget, which compares to 2.9% as indicated in the OECD Database (OECD, 2010). The variations between the reported figures illustrate that differences in definition can automatically lead to deviating figures for the public health sector.

142. Some countries reported that funding of public health-related activities also varied substantially over time due to certain events. While in some countries the H1N1 influenza led to financial commitment in the area of emergency control, the economic crisis in the public sector has caused substantial cuts in the public health sector (see Box 15). In addition, various experts reported that their country's health system was regularly subject to reforms, which often impacted on the provision and expenditures of the health system (e.g., Latvia, the United Kingdom, and Hungary). The ongoing changes are an additional reason for having only little reliable information available on respective budgets for public health activities.

143. Regardless of the difficulties in estimating exact spending on public health, the experts' experiences with the implementation of public health programmes often led them to the conclusion that financing public health and related activities could still be described as inadequate and unsustainable. As a result, the scores for the financial resource domain were relatively low in comparison to the other domains (Table 22). A reduction of funding for the public health sector and related activities in the future was foreseen, despite the fact that increased funds would be necessary to cope with the changing challenges of public health.

Box 15: Examples of the impact of the economic crisis on public health

Greece

Similar to many other countries Greece is currently facing a major financial crisis, and has signed a memorandum with the European Union, the European Central Bank and the International Monetary Fund for the provision of financial support. One aspect of the memorandum concerns the control of health expenditure; this also impacts significantly on the public health infrastructure.

Latvia

Latvia is going through large structural changes in its administrative system. The government made significant financial cuts because of the global financial crisis of 2008, with major negative implications for public health infrastructure.

Table 22: Average scores for Financial Resources

Financial Resources		
Component	**Financial resource generation**	**Financial resource expenditures**
EU average:	3.3	3.0
Standard deviation (SD):	1.5	1.3

Financial resource generation & allocation

144. Financial resource generation and allocation refers to the creation, dispersion and sustainability of finances to plan, implement and evaluate public health policies and practices. As previously outlined, the political commitment for public health was considered as relatively low. Accordingly, this was associated with a low willingness to support financing of public health-related programmes and activities. The findings from the assessment tool corresponded with the conclusions of Duran & Kutzin (2010), who claim not only a funding deficit for public health services and programmes, but also an attention deficit. This has become even more obvious during the recent economic crisis, which caused additional reduction of funds for public health (e.g., Greece, Ireland, Latvia, Estonia, and Romania). Often, the given reason was that medical care services remained the priority on the political agenda and therefore the 'softer' issue of public health and health promotion was subject to reductions in funding.

145. The following table indicates the reported range of expenditures for public health personnel, infrastructure and training of public health officials in the National Institutes for Public Health. The institutes' expenses were compared across countries divided by percentages spent on personnel, infrastructure and training and development. With regards to public health allocation, most expenses in the relevant organisations were used for personnel costs. This implies a strong link between financial and human resource capacities, as most funding is reported to be spent on personnel.

Table 23: Estimated spending by National Health Institutes' budgets on public health areas

Personnel	Infrastructure	Training & development of personnel
73%–85%	8%–26%	0.12%–12%

146. For most countries, funds for public health were reported to stem from the national budgets (i.e., through tax-based subsidies). However, depending on the individual country context, the funding sources also included several EU funds, international donors and health insurance contributions. Regardless of the multiple sources of funding, the percentages provided by the national experts varied between 1–6% of public health spending in comparison to the total health expenditure. In this regard, the experts' comments reiterated that this amount entailed an inappropriate proportion of finances for health. Accordingly, health systems in the EU widely neglect the fact that greater health improvements can be achieved by changes in exposure to the causes of diseases in comparison to treatment and cure interventions (Foldspang, 2008).Some countries did report good practice examples in financing public health measures (Box 16).

147. The case study analysis revealed that financial resources were often insufficient, and priorities were not always based on evidence or needs. Furthermore, the needs of the population for public health measures were growing whereas the resources allocated to public health often did not follow this trend. Some experts reported that finances for public health activities were even decreasing, ignoring the future needs of the population. This was perceived as a threat to the sustainability of the organisations currently active in public health.

148. The case studies revealed that for some countries and projects, lack of adequate funding and resource allocation has led to interruptions in programmes and interventions, delays in achieving public health objectives, and problems in addressing specific public health priorities or needs. Many country experts acknowledged the importance of long-term financing and commitment in the case studies presented. In a similar vein, they highlighted the need for sustainable mechanisms for public health interventions, independent of political changes and economic

crises that would ensure sustainability of actions.[16] In the light of decreasing public funds for public health, some countries have taken measures to diversify the financial resources for public health services, including privatising some elements in public health service delivery (Duran & Kutzin, 2010; county profiles Czech Republic, Slovenia).

Box 16: Examples of good practice in raising funds for public health

France
Currently, the public health share of health care expenditure lies at around 6%. This is considered insufficient by the current government, which wants to raise this share to 10% by 2012.

Denmark
Although there are no concrete reports concerning the development of public health expenditure in Denmark, total public healthcare expenditure has increased in the past decade. Given the government's reinforced focus on health promotion and disease prevention, a similar trend can be expected to hold true for public health expenditure.

149. As for cross-sectoral collaboration, the findings of this report show, that governmental funds were rarely generated to enable intersectoral interventions to promote gender equity and health or to target vulnerable groups. Only Belgium, the Netherlands and Cyprus reported this to be the case. Corresponding indicators from the assessment were low (5.1.5, 5.1.6). However, the policy dialogues mentioned some investments and financial commitments in various ministries to a wide range of issues, that have a positive effect on public health (even if activities are not always labelled 'public health').

150. Analysis showed that the experts' scores were comparatively low. For 16 countries the allocation of resources in the public health sector was assessed as partially developed at best (5.2.1). Regarding the adequacy and dispersion of expenditure, the assessments provided some of the lowest scores of the survey (5.2.2 and 5.2.3) with no national expert reporting a well-functioning system.

[16] As outlined in the case studies from Estonia, Latvia, Lithuania, Bulgaria, Romania, Sweden, Austria, and Spain.

Box 17: Example of good practice in cross-sectoral collaboration

Ireland

Although intersectoral funding for health is limited, there are a number of intersectoral initiatives underway such as the Department of Transport's 'Smart Travel' policy, which impacts on health and the recent Sustainable Development Strategy under the aegis of the Department of the Environment. Good examples of intersectoral funding are the Sports Partnerships and RAPID [Revitalising Areas by Planning, Investment and Development] programmes that have drawn on the funding to focus on gender and equity issues.

Table 24: Overview of experts' answers to: Financial resource generation

Indicator	Mean	SD	Not developed	In early stage or partially developed	Fully developed	Indicator below country average (relative weakness)	Indicator above country average (relative strength)
5.1.1 There is a stable and predictable flow of financial resources for the public health sector (i.e. annual allocation of funds) endorsed by financial regulations	4.2	1.5	3	9	13	8	17
5.1.2 The budgetary timeframe enables medium and long-term planning for public health	3.0	1.6	10	10	4	17	7
5.1.3 Processes for allocation of funding for public health are transparent and publicly known	3.7	1.6	6	10	9	15	10
5.1.4 Public health institutes/authorities are able to make autonomous decisions about funding priorities unconstrained by funding sources	3.1	1.5	10	10	4	18	6
5.1.5 Governmental funds are generated from different sectors to enable intersectoral interventions to promote gender equity and health	2.8	1.5	12	10	3	22	3
5.1.6 Governmental funds are generated from different sectors to enable intersectoral interventions to target vulnerable groups for health	3.0	1.4	9	14	2	21	4

Table 25: Overview of experts' answers to: Financial resource expenditure

Indicator	Mean	SD	Not developed	In early stage or partially developed	Fully developed	Indicator below country average (relative weakness)	Indicator above country average (relative strength)
5.2.1 Public health expenditure is adequately broken down between personnel costs, capital investment (infrastructure, office equipment, laboratory equipment, etc.) and training/professional development	3.1	1.4	9	7	5	15	6
5.2.2 The percentage of the national health budget spent on public health and health promotion is adequate compared to health care	2.3	1.1	15	7	0	21	1
5.2.3 The national expenditure for public health is adequate in comparison with other sectors addressing the wider determinants of health	2.4	1.1	14	8	0	22	0
5.2.4 Mechanisms and regulations are in place to control and ensure transparency of public health expenditure	4.0	1.6	6	5	13	9	15

Strengths, weaknesses and recommendations

151. The analysis of scores from the capacity assessment in combination with additional information provided by the national experts as well as from literature, case studies and appreciative inquiry revealed a variety of strengths and weaknesses for the Financial Resources domain. Overall, the assessment indicated relatively low capacity. A relatively pessimistic evaluation of the financial resource capacities was also observed in the comments of the national experts.

Table 26: Strengths and weaknesses in Financial Resources

Financial Resources	
Strengths	**Weaknesses**
• Financial resources invested by various ministries in a wide range of issues have a positive effect on public health (even if investments are not labelled 'public health')	• Difficult to identify and enumerate financial resources for public health due to widespread dispersion of funds • Low amount of public health spending compared to health care expenditure • Public health effects often occur only after many years. Health improvement funding is often aimed at short-term goals, disregarding long-term initiatives • Government funds are not generated to enable intersectoral promotion of gender equity and health or to target vulnerable groups for health • Public health funding is often instable and likely to be cut even when an increase is required. This impacts on both medium and long-term planning • Lack of adequate funding and resource allocation has led to interruption to programmes and interventions, delays in achieving public health objectives, and difficulties in addressing specific public health priorities and needs

152. Responding to these findings, the national experts' suggestions to strengthen the financial resource domain yielded the following recommendations:

- base resources on health needs instead of financial budget constraints;
- assure the stability and predictability of available resources (e.g., multi-annual plans);
- obtain fair and efficient resource allocation;
- allocate funds better to target priorities and specific risk factors;
- integrate the handling of wider health determinants into resource generation and allocation decisions (see also recommendations for the Partnerships domain);
- allocate adequate resources to publish health education and research.

153. These topics are only partially linked to the recommendations on how to achieve the above. Defining and specifying budgets should be obligatory at all relevant levels and in both medium and long-term plans to ensure the stability and predictability of resources. Another suggestion was to define public health budgets as a proportion of GDP or the national health budget–or, more controversially, to link public health budgets to the tax income from tobacco or alcohol consumption.

Links to other domains

154. There is evidence of links to the Leadership and Governance domain (e.g., stability of budgets, allocation of budgets in public health sector, priority setting, stressing the relevance of public health activities in overall governmental budget allocation) and the Knowledge Development domain (e.g., knowledge about the effective and efficient allocation of resources in the public health sector).

4.2.5 Partnerships

155. Partnerships refer to the establishment of effective and sustainable collaborations between organisations and with other sectors to achieve effective public health capacity building.

156. As such, partnerships in the public health sector are considered to play an important role in increasing public health capacity as they can contribute significantly to mobilising additional efforts outside the health sector and to tackling the social determinants of health. Partnership

building therefore includes the strengthening of formal and informal partnerships to address contemporary public health issues as well as 'joined up government' efforts to strengthen multisectoral coordination. The Partnerships domain was assessed in three components:

- Formal partnerships
- Informal partnerships & alliances
- Joined up government

157. The average component scores were relatively homogenous and slightly lower than the other domains lower (Table 27).

Table 27: Average scores for each component

Partnerships			
Component	**Formal partnerships**	**Informal partnerships and alliances**	**Joined up government**
EU average:	3.6	3.5	3.6
Standard deviation (SD):	1.4	1.2	1.0

(In)formal partnerships and joined up government

158. Partnerships for public health refer to established cooperation between government, public authorities, NGOs, civil society and the private sector that address public health issues collectively and work towards progress in public health in addition to governmental programmes. They may be formally established through legislation and policies, or, informally through cooperation agreements. To foster formal partnerships, supportive legal mechanisms and policies should be in place.

159. Joined up government refers to multisectoral coordinating mechanisms, established working groups and collaborations across governmental departments for policy development and implementation. Ideally, joined up government for public health can be achieved by fostering governmental departments to work together on health-related issues. Although the Ministry of Health is usually the lead agency in health prevention, promotion and protection, many other ministries play very important formal and informal roles in public health issues. One example is

the safeguarding of air quality, which is usually the responsibility of the Ministry for the Environment. Other examples include food safety issues (often situated at the Ministry of Agriculture or with consumers) or road safety (Ministry of Transportation).

160. Across countries, the following ministries were consistently reported to be involved with public health-related activities in collaboration with the Ministry of Health:

- Ministry of Environment
- Ministry of Social Affairs
- Ministry of Agriculture
- Ministry of Transportation
- Ministry of Education
- Ministry of Science
- Ministry of Justice
- Ministry of Finance

161. Current public health programmes and strategies were often reported to be trying to involve multiple ministries to enhance their effectiveness. Besides the reports from the national experts, positive examples for governmental collaboration could be identified in the literature. Examples include the collaborative efforts of several ministries in the planning of public health programmes in Denmark, or the application of Health Impact Assessments various European countries (Lock & McKee, 2005).

162. However, established mechanisms across governmental sectors (particularly those tackling the social determinants of health and health inequalities) were relatively weak in 23 countries. Only for Finland, Lithuania and the Netherlands capacities in this area were reported to be fully developed (6.2.4). A systematic institutionalisation of the Health in All Policies concept (through legislation) was reported to require further attention and development.

163. The findings of the report reiterated the need to strengthen multisectoral approaches for tackling public health challenges. The importance of partnership development, the need to involve other sectors' experts and professionals and build capacity for intersectoral work and partnerships at national, regional and local level was highlighted in the case study analysis:

"Formal partnerships among different stakeholders should be the goal of any public health intervention (…) Multisectoral initiatives at local, regional and national level are needed to safeguard the sustainability of any intervention or policy." – Case study analysis

164. Legal mechanisms and policies in place to support such partnerships across different actors were reported as fully developed in Belgium, Lithuania, Luxembourg, Sweden, Latvia, Finland and the Netherlands. In contrast, they were widely non-existent in Austria, France, Germany, Greece, Hungary, Ireland, Malta and Poland (6.1.1).

165. Capacity for inter-organisational partnership activities between health care and public health organisations was low in 20 countries (6.3.1). Partnerships between public health organisations and academia were also considered in need of strengthening and only eight country experts acknowledged that partnership activities between public health bodies and academia had been fully developed (6.3.2). Partnerships between organisations in the public health sector and from other sectors to address health inequalities and the social determinants of health were also not well developed across countries (6.3.3) but many experts considered the need for this as critical for success.

Box 18: Examples of good practice in Partnerships

Germany: Health boards

The health system consists of federal legislation and governmental regulations at the regional (Länder) and local level. Some regional governments have implemented health boards (Gesundheitskonferenzen), which provide a round-table forum for all major stakeholders in the health system to discuss and agree on non-binding (public) health issues. These conferences form a platform for public health coordination on the basis of consensus and in some regions have formulated and agreed on health targets. Although their actual impact needs further investigation, the boards provide a good governance mechanism in a largely pluralistic health system.

Poland: Multi-stakeholder involvement in national strategy for health

For the period 2007–2015, a National Health Programme defines Poland's strategies and policies with regards to public health and involves more than 30 organisations from different sectors, including governmental agencies and civil society.

166. Private sector involvement and corresponding partnership activities were reported to be low in most EU countries, with four and three experts reporting well-established cooperation (6.1.3 and 6.3.4, respectively). Some national experts stated that a debate on potential partnerships between the private and public sectors should be initiated in order to investigate potential areas of cooperation that could benefit all partners. Some countries are already pursuing cooperation and further analysis of their experiences could benefit future debate on this issue. For instance, in the Czech Republic public health facilities such as various auxiliary laboratories are being privatised as part of ongoing reforms (Bryndová et al., 2009). However, evaluations of such private sector involvement in traditional public health functions are currently still scarce in Europe.

167. Formal partnerships or collaborations exist with public health bodies in EU Member States at the EU or international level. It was reported that all Ministries of Health had units responsible for international and EU affairs and the development of international partnerships and collaborations, thereby laying the foundation for international agreements and mutual learning (2.3.10).

Table 28: Overview of experts' answers to: Formal partnerships

Indicator	Mean	SD	Not developed	In early stage or partially developed	Fully developed	Indicator below country average (relative weakness)	Indicator above country average (relative strength)
6.1.1 Legal mechanisms and policies support formal partnerships between NGOs, civil society, and government to address public health priorities	3.5	1.5	8	11	7	14	12
6.1.2 Effective partnerships between organisations in the field of public health and health promotion address public health priorities	4.0	1.1	2	17	7	11	15
6.1.3 Formal partnerships between organisations in the public and private sectors address public health priorities	3.3	1.5	7	15	4	19	7

Table 29: Overview of experts' answers to: Informal partnerships and alliances

Indicator	Mean	SD	Not developed	In early stage or partially developed	Fully developed	Indicator below country average (relative weakness)	Indicator above country average (relative strength)
6.3.1 Inter-organisational relationships necessary for effective public health and health promotion are established between health care services and the public health system	4.0	1.0	2	18	6	12	14
6.3.2 Inter-organisational relationships necessary for effective public health and health promotion are established between academic institutions and the public health system	3.9	1.3	3	15	8	13	13
6.3.3 Inter-organisational relationships necessary for effective public health and health promotion are established between sectors addressing the socio-economic determinants of health and the public health system	3.0	1.1	9	14	3	24	2
6.3.4 Inter-organisational relationships necessary for effective public health and health promotion are established between public health system and the private sector	3.1	1.3	8	15	3	20	6

Table 30: Overview of experts' answers to: Joined up government

Indicator	Mean	SD	Not developed	In early stage or partially developed	Fully developed	Indicator below country average (relative weakness)	Indicator above country average (relative strength)
6.2.1 Formal partnerships between health authorities and other sectors address health inequalities and social determinants of health	3.2	1.1	8	15	3	23	3
6.2.2 Formal partnerships between health authorities and other sectors address public health priorities	3.6	1.0	3	19	4	19	7
6.2.3 Formal partnerships/collaborations with public health bodies from other EU Member States and at EU/international level	4.5	0.9	0	14	12	8	18
6.2.4 Cross-governmental mechanisms ensure coordination and effective implementation of interventions addressing health inequalities and socio-economic determinants of health	3.3	1.1	7	15	3	22	3

Strengths, weaknesses and recommendations

168. The analysis of scores from the capacity assessment in combination with additional information provided by the national experts as well as from literature, case studies and appreciative inquiry revealed a variety of strengths and weaknesses in the Partnerships domain.

Table 31: Strengths and weaknesses in Partnerships

Partnerships	
Strengths	**Weaknesses**
• Various ministries are involved in public health affairs on specific issues and some positive health outcomes were based on initiatives from other ministries in the past (road and food safety, air quality). • Many countries have partnerships and networks with other sectors facilitating local infrastructures to deliver public health. • Partnerships and collaborations between national public health authorities and EU/international level.	• Insufficient governmental and inter-organisational partnerships between authorities for health and other sectors to address health inequalities and the social determinants of health • A formal Health in All Policies mind-set is often not institutionalised yet, forming a barrier for intersectoral partnerships • Weak links between academia and policy makers • Only few deliberate inter-organisational partnership activities between health care and public health organisations

169. The recommendations mainly address cross-sectoral partnerships and partnerships with the private sector. They recommend to:

- better evaluate activities / policies in other policy sectors (e.g., through the systematic implementation of Health Impact Assessments tools, especially for social policies);
- strengthen partnerships between health authorities and other sectors to address health inequalities and the social determinants of health. This includes cooperation between different governmental departments at the Member-State level and creating new partnerships outside the traditional public health community;

- initiate a broad debate on the potentials and risks of public-private partnerships for public health at the Member-State level, supported by case studies of existing examples;

- push forward the Health in All Policies approach (e.g., starting with an assessment of the role of Health in All Policies in the respective EU Member States);

- strengthen cooperation with the media; partnerships with the media can for example help facilitate health promoting interventions.

Links with other domains

170. Links with other domains are obvious. Financial and human resource capacities could potentially be strengthened by enhanced partnerships. The organisational structures could also benefit from such a multi-stakeholder approach. The same holds for advocacy, leadership and certain kinds of governance structures, including additional knowledge to be developed to support effective partnership activities.

4.2.6 Knowledge Development

171. Knowledge Development capacities refer to the availability and existence of infrastructures and mechanisms to obtain sufficient population health data, to enlarge the evidence base for public health and to communicate knowledge to support public health policy making and health service delivery at all levels. In addition, it refers to measures taken to strengthen and institutionalise public health research. The capacity assessment appraised the following components of the Knowledge Development domain, which were considered relevant for all Member States:

- Health information and monitoring systems
- Public health reporting
- Research and Knowledge infrastructures

172. The component averages were relatively homogenous and high in comparison to components from the other domains (Table 32).

Table 32: Average scores for each component

Knowledge Development			
Component	**Health information and monitoring systems**	**Public health reporting**	**Research and knowledge infrastructures**
EU average	4.5	4.3	4.5
Standard deviation (SD)	1.2	1.2	1.1

Health information and monitoring systems

173. Health information and monitoring systems refers to the creation and monitoring of all information relevant for public health policies, programmes and activities. Strong health information systems are an essential element of well-developed public health capacity in the Member States, as they can support decision makers in addressing the relevant issues and provide evidence on best

practices for policies, programmes and activities. This can only be achieved if access to data, indicators and information on health and its determinants is given.

174. Strengthening information systems for health has been a high priority of the EU. This is reiterated by European Health Strategy 2008–2013, which states that public health policy should be based on the best scientific evidence derived from sound data and information and relevant research (COM(2007)630 final). Without proper health information systems, policies addressing health priorities may be targeting the wrong goal or may be ineffective, inefficient or incorrectly administered (Oxman et al., 2009). One of the most relevant concerns to the EU is the heterogeneity of surveillance systems across the 27 Member States. Increasing homogeneity and additional comparability across these Member States has been reflected in various projects that have been and that will be supported by the EU, including EUROSTAT's EHIS (European Health Interview Survey), DG SANCO's EHES (European Health Examination Survey) or the ongoing ECHI projects (European Community Health Indicators).

175. During the assessment, national experts confirmed the importance of sufficient capacity with regards to these health information systems and tools. Although health information systems are organised differently across Member States, there was large consensus among the experts that that a health information system was in place which collected, processed and analysed population health-related data, albeit with differences in quality, comprehensiveness and timeliness. Well-developed capacities in this area were reported in 17 countries, whereas for nine countries, these were 'partially developed' (7.1.1). The findings from the expert assessment were largely congruent with the outcomes of the ECHI projects, which also acknowledged that health information systems and the availability of data and indicators differ widely in quality between EU countries due to different historical developments and differences in the perceived needs for information (ECHIM. Final report, 2008)

> *"Because of this variation in availability and comparability of health data in Europe, the first priority is to implement health data collections with sufficient comprehensiveness, coverage and comparability between countries."* (ECHIM Final report, 2008).

176. A key feature of public health is that it operates in a not very well-defined sphere, reaching out into various sectors (environment, transportation, education, etc.). Ideally, health information systems for public health should take these multiple determinants of health into consideration, in

particular when valid information is to be gathered on health inequalities and social determinants of health. An additional need to intensify activities linked with social determinants of health was also reflected by the indicator scores (e.g., 7.1.8). The findings from the assessment showed that links between the health information systems and other comprehensive information sources on the population (information other sectors from employment, education, environment, transport, etc.) were reported to fully exist in 11 countries and 13 countries stated to have some capacity in this regard (7.1.5). These links can be considered important contributors to the creation of more information on the social determinants of health and subsequent policy formulation and policy evaluation (Allin, Mossialos et al., 2004).

177. The protection of personal data (7.1.3) and reporting of data stratified by sex (7.1.7) received exceptionally high scores and for the remaining indicators, the averages were also high, with only a few experts reporting 'not developed' capacities. However, while the overall averages of scores was relative positive compared with other components, the number of countries in the category 'in early stage or partially developed' category was still substantial, thereby signalling a need for further improvements.

178. A diverse picture also evolved with regards to the periodical monitoring and reporting on lifestyle health determinants (such as nutrition, tobacco, alcohol, physical activity). While 13 national experts reported well-developed capacities for their countries, for the remaining countries these capacities were only partially or not developed at all (7.1.6). The relevance for this was also highlighted in the case studies.

> *"Trends in health status and health determinants, including nutrition and physical activity, should serve as basis for further public health policies."* – Case study analys

Table 33: Overview of experts' answers to: Health information and monitoring systems

Indicator	Mean	SD	Not developed	In early stage or partially developed	Fully developed	Indicator below country average (relative weakness)	Indicator above country average (relative strength)
7.1.1 A national health information system is in place which collects, processes and analyses population health-related data	4.8	1.0	0	9	17	2	24
7.1.2 Guidelines and protocols for the data collection process and other mechanisms for quality assurance are in place	4.3	0.9	1	15	9	6	19
7.1.3 Mechanisms and regulations are in place (in accordance with EU regulations) to ensure the protection of personal data	5.3	0.6	0	2	24	1	25
7.1.4 There are links between the health information system and other comprehensive information sources on the population (e.g., census)	4.1	1.0	1	19	6	11	15
7.1.5 There is access to the data from other sectors addressing the socio-economic determinants of health (e.g., employment, education, environment, transport)	4.2	1.2	2	13	11	9	17

7.1.6 The health information system periodically tracks and reports on lifestyle health determinants (e.g., nutrition, tobacco, alcohol, physical activity)	4.3	1.3	3	10	13	7	19
7.1.7 The health information system periodically collects and reports on health data stratified by sex	5.1	1.2	1	6	19	4	22
7.1.8 The health information system periodically collects and reports on health data stratified by at least two social markers (e.g., education, income/wealth, occupational class, ethnicity/race)	3.9	1.5	4	13	9	13	13
7.1.9 The health information system periodically collects and reports on health data stratified by at least one regional marker (e.g., rural/urban, province)	4.7	1.4	2	7	17	5	21
7.1.10 The health information system periodically tracks and reports on the child health status broken down by at least three age groups	4.5	1.4	2	12	12	8	18
7.1.11 Large scale surveys and cohorts are implemented nationwide in accordance with European level surveys	4.5	1.2	2	11	13	8	18

Public health reporting

179. One important element of health information system concerns the mechanisms by which health information is communicated to relevant stakeholders and decision makers. Public health reporting refers to the efficient sharing of information with relevant stakeholders and should ideally enable an improvement of public health services on the basis of this information. Sufficient capacity to analyse but also to disseminate the knowledge to relevant stakeholders is therefore important for public health systems. As such, public health reporting in each country should be able to highlight areas for action, disseminate the relevant information through the appropriate channels and should support the monitoring of the application of actions.

180. The assessment of indicators showed that capacities were well developed for some areas. This included data collection and reporting according to EUROSTAT and WHO requirements[17] (7.2.1), the communication of relevant information to decision makers (7.2.2) and the publication of periodical public health reports (7.2.3). The situation is more diverse for the indicators querying whether periodical reports define common public health objectives, priorities and strategies (7.2.4) or health inequalities and the social determinants of health (7.2.5). 16 and 18 national experts respectively stated that these indicators were at best partially developed.

[17] All countries have the responsibility to report data to WHO and EUROSTAT.

Table 34: Overview of experts' answers to: Public health reporting

Indicator	Mean	SD	Not developed	In early stage or partially developed	Fully developed	Indicator below country average (relative weakness)	Indicator above country average (relative strength)
7.2.1 The health information system tracks and reports on population health status annually in accordance with EUROSTAT and WHO data reporting requirements	5.1	0.7	0	4	21	1	24
7.2.2 The health information system communicates relevant information to decision makers at national, regional and local level	4.7	0.8	0	10	16	2	24
7.2.3 There are annual governmental publications/reports on the health of the population	4.6	1.3	2	9	15	3	23
7.2.4 There are annual governmental reports that define common public health objectives, priorities and strategies	3.7	1.7	8	8	10	14	12
7.2.5 Annual governmental reports/publications on the health of the population include information on health inequalities and the socio-economic determinants of health	3.6	1.6	8	10	8	15	11

Research and knowledge infrastructures

181. Research and knowledge infrastructures refer to the academic landscape, organisational research facilities and intellectual capacities to support the accumulation, exchange and flow of knowledge needed for public health. Public health research is undertaken in all EU Member States and European countries produce around 7000 public health research papers a year. Nevertheless, there are marked differences across Europe (Clarke et al. 2007).

182. In addition to the assessment tool, the findings of the STEPS study (Strengthening Engagement in Public Health Research) were also reviewed to complement the findings. STEPS was a collaboration from January 2009 to June 2011 between University College London, the European Public Health Association, Association Skalbes and 12 country partners with financial support from the EU (STEPS final report, 2011).

183. Research capacities were valued as relatively well developed in comparison to other components. The majority of experts acknowledged that at country level, universities and research institutes are currently initiating or participating in epidemiological, public health and health promotion-based research (7.3.1). Although a generally low level of financial resources for public health research was reported, the majority of experts confirmed that there is professional expertise and capacity in universities and research institutes to carry out research oriented towards establishing an evidence base for effective public health and health promotion policies and practices. In 16 countries, capacities for this were reported to be fully available (7.3.2 and 7.3.3).

184. The experts' response highlighted that the extent of governmental support for public health research varied substantially across countries. Five countries reported no governmental support for any public health research (Greece, Austria, Latvia, Italy, Slovakia; 7.3.5). The STEPS project found that among the calls for health-related projects for the EU's Seventh Framework Research Programme, almost all funding was allocated to biomedical research, and public health research received only five percent (at its lowest, €26m out of a total €658m for 2011) (STEPS, 2011).

185. Capacity for the effective communication of research results to policy and decision makers was comparatively low as compared to other indicators in this domain (7.3.4). For 17 countries capacities were reported to be partially developed at best. Some of the experts' comments showed that relatively large differences across countries existed in how health information was analysed, disseminated and used by policy makers. Despite the relative importance of this indicator, the underlying reasons for the low scores were not investigated by this assessment. The capacities for processing and successfully transferring the existing knowledge into recommendations and ultimately into actions were nevertheless a key issue with regards to the functioning of health information systems.

Table 35: Overview of experts' answers to: Research and knowledge infrastructures

Indicator	Mean	SD	Not developed	In early stage or partially developed	Fully developed	Indicator below country average (relative weakness)	Indicator above country average (relative strength)
7.3.1 Universities and research institutes are initiating or participating in epidemiological and public health and health promotion research	4.9	0.9	0	7	19	2	24
7.3.2 There is professional expertise and capacity in universities and research institutes to carry out evidence-based research oriented towards establishing effectiveness of public health and health promotion policies and practice	4.7	0.9	0	10	16	4	22
7.3.3 There is professional expertise in the universities and research institutes to carry out health status monitoring activities and interpret outcomes and trends	4.7	1.1	1	9	16	5	21
7.3.4 Research findings and results are regularly or periodically communicated to policy and decision makers	4.1	1.2	4	13	9	11	15
7.3.5 Governmental mechanisms exist to support high quality postgraduate public health research	4.0	1.5	5	11	10	13	13

Strengths, weaknesses and recommendations

186. The analysis of scores from the capacity assessment in combination with additional information provided by the national experts as well as from literature, case studies and appreciative inquiry revealed a variety of strengths and weaknesses for the Knowledge Development domain.

Table 36: Strengths and weaknesses for Knowledge Development

Knowledge Development	
Strengths	**Weaknesses**
• Relatively sophisticated knowledge on the health of the population in EU Member States through national and regional health information systems • Strong professional expertise and capacity in universities and research institutes to carry out evidence-based research, oriented towards establishing effectiveness of public health and health promotion policies and practice (if financial funds are available) • Some governmental mechanisms to support high quality postgraduate public health research, such as postdoctoral programmes	• Links between public health reporting and policy formulation are weak • Health reporting often is no part of a policy cycle but more of an isolated procedure. Institutionalised follow-up, evaluation and adaptation of assessments respectively are missing in many cases • Weak capacity to monitor and evaluate public health and health promotion programme implementation exist in some countries • Funding for public health research is inadequate and health research is often dominated by a medical approach • Public health issues rarely considered in the development of research programmes or the decisions on which science to fund (STEPS, 2011) • No European overview of university departments undertaking public health research (STEPS, 2011) • Weak coordination between the Ministries of Science, Education and Finance to develop public health sciences in universities and institutes of public health (STEPS, 2011)

187. Research and the exchange and use of information for policy development and programmes are of high importance and interlinked with all the other domains, as the listed recommendations show. Knowledge development is important for setting up an effective provision of public health services – and for advocacy, leadership and governance.

188. The national experts recommend giving a higher priority and more resources for public health research, especially in relation to other kinds of medical research. In terms of knowledge creation it was recommended to engage in more research activities regarding:

- resource allocation;
- the effectiveness of complex public health interventions;
- needs for workforce development (quantitative and qualitative);
- the effectiveness and efficiency of organisational structures;
- 'good' public health laws and regulations (e.g., health promotions, prevention, protection) and respective implementation strategies;
- effective kinds of leadership and governance;
- effective development and dissemination of knowledge / realising a policy impact with scientific knowledge and/or expertise;
- existing facilitators and barriers for the effective translation of research into policy and practice; countries that reported a well-functioning system of knowledge translation into policies could be investigated further to identify good practices and mechanisms to overcome obstacles that prevent the flow of information from research to policy.

189. As well as strengthening the evidence base, the consortium organisations emphasized that national Ministries of Health need to work in close collaboration with Ministries of Science to agree on health research priorities and strategies that meet the National Health Programmes and agendas. European Member States should ensure dialogue and coordination between Ministries of Health and research ministries, to develop national health research priorities relevant to national public health policies and strategies.

190. Publications from the European Observatory on Health in Transition and publications on health policy including case studies of many EU member countries are valuable sources of information for public health researchers and planners. The Public Health Reviews, *New Public Health*,

Ageing and *Public Health Educ*ation, all freely available on line at www.publichealthreviews.eu, will be useful in discussing public health work force development across the European Region.

191. Finally, the online database HP-Source.net may be used for knowledge sharing both on national data as well as data gathered on specific topics (alcohol. mental health, etc).

5 Recommendations

5.1 General remarks

192. This assessment identifies some general themes relevant to EU engagement that should be considered in any action taken to strengthening public health capacity:

- The different understandings European countries have of the tasks and scope of the public health function is a potential barrier to European cooperation in this area. Further DG SANCO activities should take place to improve understanding of these differences and similarities in order to help improve dialogue and exchange of experience.

- The large diversity in the organisation of Member States' public health systems means that capacity-building activities need to be flexible and adaptable to a wide variety of situations. This should be recognised in all recommendations and potential DG SANCO actions.

- For several relevant areas, information on the level of capacities was difficult to obtain. There was a general sense of uncertainty among experts regarding the capacities of the public health workforces and the financial structures for public health. Further work should therefore take place to understand these areas better.

- With regards to formal regulations particularly those addressing 'traditional' public health issues (e.g., disease prevention, emergency planning), capacities were evaluated as relatively well developed, while those addressing health promotion, social determinants of health and cross-sectoral collaborations were viewed as generally weak. DG SANCO should reconsider this mismatch in all actions directed towards strengthening public health capacity.

- In many countries, there appears to be limited political interest and commitment to public health issues by governments.

- Leadership and advocacy for public health is underdeveloped. The DG SANCO and the European Commission in general have the potential to strengthen this area by providing clear public health policy messages.

- Cross-sectoral cooperation for public health is relatively weak and should be a key element of all capacity-building activities.

193. **Recommended actions:**

- Increase opportunities for strengthening public health capacity through the Structural Funds process – from the definition of the various instruments through to the development of national strategies, operational programmes and funded projects, and for indirect as well as direct investments in health. Use these funds especially to tackle health inequities, poverty and vulnerable groups.

- Support projects on the use of structural funds like EUREGIO III ('Health Investments in Structural Funds 2000–2006: learning lessons to inform regions in the 2007–2013 period', funded under the EU Health Programme) and the HealthGain project.[18]

- DG SANCO should consider evaluating Structural Funds investments in public health infrastructures in the light of public health capacity and performance (e.g., in the form of pilot studies financed by EU Health Programme).

- Fund training and projects to increase the capacity of regional stakeholders and governments to prepare the case for using Structural Funds to strengthen public health capacity and reduce health inequities.

5.1.1 Strengthening capacity in the light of current societal challenges

194. Recommendations and strategies for the development of public health capacity must address the gaps between existing capacity and the current and future needs of society. The following five key trends have been identified as posing the greatest challenges for public health in Europe today and in years to come:

195. ***Demographic change and ageing populations*** pose a major economic challenge to virtually all Member States, potentially reducing the revenue base for health, long-term care and pension systems. More than ever, best practice measures and actions need to be put in place to support

[18] For further information, see www.euregio3.eu and http://healthgain.tttp.eu/civicrm/event/info?reset=1&id=1

healthy and active ageing in current and future generations. To date, not all Member States have addressed this public health challenge sufficiently. Public health, health promotion and disease prevention capacities need to be planned and developed across the whole life course in accordance with the needs of both current and future elderly populations.

196. **Recommended actions:**

- DG SANCO should support and encourage the development of national and regional public health strategies in line with other social policies to ensure that European societies are sustainable, adapted to an older workforce and a generally ageing population.

- DG SANCO should reinforce its own activities on healthy and active ageing with a view to creating synergies with national and local policies in this area.

197. ***Ongoing challenges in communicable and non-communicable diseases,*** especially in children, pose another serious challenge, which should be addressed by effective health promotion and disease prevention interventions.

198. **Recommended actions:**

- The European Commission should intensify its engagement in addressing risks for chronic and non-communicable diseases linked with tobacco, alcohol, nutrition and physical activity. In addition to promoting the development and exchange of knowledge about good practice, European regulations offer opportunities to address these issues with more vigour.

- The European Commission should also strive for more cooperation and coordination, and if useful, harmonisation, in the development of policies for prevention of communicable and non-communicable diseases.

- Regarding communicable diseases, there is still great diversity in immunisation programmes among EU members and accession states. DG SANCO could promote recommended standards for immunisation policies, akin to those recommended by WHO European Region.

- The establishment of the European Centre for Disease Prevention and Control (ECDC) in Europe has already strengthened capacities in dealing with communicable diseases. This mandate could be expanded or additional agencies could be created to address *non-communicable* diseases and/or injury prevention.

199. ***The current economic crisis*** has demonstrably put pressure on European public health systems. Measures to reduce public deficits are likely to result in further cuts in public health budgets in years to come. This is paradoxical, as investments in public health could offer cost-effective, mid- and long-term opportunities to limit the economic pressures on health systems. However, all too often, the case for investment in public health is not made, there is a blatant lack of public health leadership, and cost-containment strategies remain short-sighted.

200. **Recommended action:**

- The European Commission should support monitoring and research into the health consequences of the crisis and should accordingly reiterate the importance of public health and public health services in alleviating the negative effects of the crisis on population health. It should support the development of policies to handle the crisis effectively, contribute to the creation of knowledge about the cost effectiveness of public health activities and promote the evaluation of public health activities.

201. ***Growing societal inequities and deterioration of living conditions*** in some countries, the current economic crisis and austerity measures are leading to increased health inequalities and social disintegration, with potentially serious consequences for population health. This assessment has shown that social determinants of health are often still not included in formulations of public health policy or addressed in the provision of public health services.

202. The stratification of health data by at least one socio-economic indicator is done only in a few countries. Although data about lifestyle determinants of health (e.g., diet, physical activity, alcohol and tobacco consumption) is collected in many Member States, the distribution of these determinants across different socio-economic groups is known only in a few countries.

203. **Recommended actions:**

- Raise awareness and knowledge among professionals and policy makers on health inequalities and on how to address them.

- Support national and regional governments to develop comprehensive, multisectoral approaches to address health inequalities.

- Support the availability of accurate and up-to-date knowledge and information about how health is distributed.

- Facilitate and strengthen the regular and periodic collection and analysis of data relevant to health inequalities and the socio-economic determinants of health to strengthen health information about the different sub-populations and more disadvantaged groups.

- Promote the evaluation and distributional impact analysis of policies and interventions addressing the socio-economic determinants of health, including the most vulnerable groups of societies.

- Develop and use tools and methodologies for the monitoring and evaluation of policies and programmes, including distributional impacts across social gradients.

204. ***Global health challenges (e.g. trade and financing, migration, security, food security and climate change[19])*** require innovative policies, in which the public health community could play an important role. European societies need to foster the health and well-being of their population in a global context.

205. **Recommended action**:

- The European Commission should continue its support for research about the health consequences of global challenges and support the development of policies as well as awareness of health protection measures.

5.1.2 Synergies with WHO

206. The WHO Regional Office for Europe is currently developing a framework for action on 'Strengthening Public Health Capacities and Services in Europe' (WHO Europe, 2011). It builds upon ten 'Essential Public Health Operations' (see Box 19) and includes eight avenues to strengthen public health capacity and services:

- implementing the Essential Public Health Operations;

[19] See: Council Conclusions on the EU Role in Global Health (9505/10)

- strengthening regulatory frameworks for protecting and improving health;
- improving health outcomes through health protection;
- improving health outcomes through disease prevention;
- improving health outcomes through health promotion;
- ensuring a competent public health workforce;
- developing research and knowledge for policy and practice;
- organisational structures for public health services.

Box 19: Essential Public Health Operations defined by WHO Regional Office, Europe (WHO, 2011)

1. Surveillance of diseases and assessment of the population's health and well-being
2. Identification of priority health problems and health hazards in the community
3. Preparedness for and planning for public health emergencies
4. Health protection operations (environment, occupational, food and safety and others)
5. Disease prevention
6. Health promotion
7. Assuring a competent public health and personal health care workforce
8. Core governance, financing and quality assurance for public health
9. Core communication for public health
10. Health-related research

207. The WHO Regional Office for Europe will put forward proposals for action aiming to strengthen public health capacity including delivering examples of good practice and supporting the exchange of good practice. Key elements are reviewing the effectiveness of existing support mechanisms and resources, standards and indicators for delivering and monitoring core public health services, and the availability of a tool for the assessment of public health capacity.

208. The European Commission has opportunities to cooperate in this work. In accordance with article 168 of the Lisbon treaty, the EU can particularly support Member States by promoting the exchange of information and good practices across Member States, increasing coordination of

activities between Member States and complementing national activities where there is added value to EU involvement. The European Commission can further stimulate mutual learning between Member States and stimulate activities by creating transparency based on the request for comparative data. Data collection processes initiated at the European level might raise sensitivity for public health issues among Members States. The same holds for the development of tools. The European Commission can support this as well as the development of respective competencies to use them. Platforms and other kinds of networks can support the diffusion and dissemination of information and knowledge.

209. The EU can also support activities with financial incentives through the EU Structural Funds. In some situations, the EU also may have the possibility of regulation.

210. **Recommended actions:**

- DG SANCO should provide activities to complement those of the WHO Regional Office for Europe in relation to strengthening public health capacity.

- DG SANCO should review its actions in the light of the WHO Action Plan for Strengthening Public Health Capacities and Services, which is expected to be finalised by the end of 2012.

- DG SANCO could consider developing a strategy for supporting Member States and regions to strengthen public health capacity.

5.2 Recommendations per domain

5.2.1 Leadership and governance

Ensure further development and consistency of EU activities in public health

211. In the light of the identified challenges of public health systems across the EU, the recommendations provided in this report overlap to a large degree with recommendations from the European the Union Health Policy Forum in the same policy areas (e.g., EUHPF 2009, 2010, 2011). Many of the topics have also been previously addressed by EU / DG SANCO activities and are therefore already aimed at strengthening public health capacity in EU Member States. This report supports the relevance of activities targeting respective challenges but it also shows the need to continue and broaden effective activities, to stabilise or extend available resources if

necessary, to invest in areas missing knowledge on the effectiveness of activities, and develop answers for challenges for which effective activities are not yet known or available.

212. **Recommended actions:**

- The EU should set a good example in public health policy making and contribute to the development of instruments that could also be applied in Member States.
    - Policy should be linked with defined and measurable indicators or even targets and include strategies for evaluation and implementation.
    - The effectiveness and efficiency of ongoing activities should be systematically demonstrated by monitoring and evaluation to identify good and bad practices.

Strengthen political support for public health and health promotion

213. In many countries, health care policies dominate the political health discourse, with political interests mainly focused on health care, patient safety, health insurance and economic sustainability of the health care system.

214. Evidence-based policy for public health remains a challenge (e.g., compared to the 'golden standards' in clinical research, with controlled and randomized clinical studies). Therefore, the relevance of public health policies is often underestimated and arguments may be perceived as weak from the perspective of policy makers. Another consequence is that public health priorities are still often determined politically rather than evidence-based. It is therefore of paramount importance for the public health and health promotion communities to develop and communicate clearly the societal and economic relevance of public health and health promotion services to policy makers.

215. In the light of the aforementioned societal challenges, the EU seems to have a strong focus on strengthening health care innovation and efficiency. This is reflected in Europe 2020 and the proposals for the new EU Health Programme 'Health for Growth'. However, well-established public health and health promotion services play a vital role in the effectiveness of all flagship initiatives. Their relevance should be stressed in all EU communications.

216. **Recommended actions:**

- Develop and implement communication activities to explain EU Health Strategy, its related activities and impact, thereby creating public awareness and support. This can be an important asset in playing a more relevant role in the political agenda-setting processes, also at the national levels.

- Support more research into cost effectiveness and health care savings of public health interventions as for a contribution to advancing public health and health promotion on the political agenda (e.g., calculate the cost of avoided sick days, doctor visits or hospitalisations, resulting in reduced health care costs and reduced productivity loss).

- Support activities to enable public health officials and professionals make better use of available evidence.

- Support training activities of public health professionals in areas such as policy making, leadership and advocacy skills – particularly for those parts of the EU where capacity is relatively low in these domains. One notable example is the LEPHIE (Leaders of European Public Health) project, supported by DG Education, which aims at creating a world class, blended-learning course on Leadership in European Public Health.[20]

- Consider the development of guidelines and regulations to strengthen public health capacity.

5.2.2 Knowledge development

Address knowledge gaps and support knowledge creation

217. The capacity assessment has indicated significant gaps in knowledge and evidence for several public health-related matters. The EU could play an important role in supporting initial knowledge creation and in developing mechanisms of support for coordination and cooperation in public health research between Member States. Since this assessment of public health capacity in the EU was performed with key informants, existing contacts could be turned into an expert information network, with the respective experts acting as national focal points for public health.

[20] For more information, see: http://www.lephie.eu

This structure would allow for more identification of good practices through quick inquiries by this task force of national experts.

218. **Recommended actions:**

- Give more emphasis to public health research in EU Framework Research Programmes. This has also been reiterated in the STEPS report, which calls for a minimum of 25% of all health research funding should be allocated to public health research, by both Member States and the European Union (STEPS, 2011).

- Contribute to an integrated European strategy for public health research and innovation, with an appropriate expert advisory structure and high levels of funding.

- Contribute to the development of clear terminology and a common understanding of public health and its role for the society.

- Increase the capacity and encourage the adoption of the principles of evidence-based research for public health.

- Support knowledge creation and ongoing studies through EU research programmes in the following areas:

    - lifestyles and the epidemiology of non-communicable diseases;

    - financial resources for public health activities;

    - quantity and quality of the workforces for public health;

    - socio-economic strategies to tackle health challenges;

    - direct and indirect costs of public health interventions;

    - benefits of public health interventions across the EU;

    - effective cross-sector cooperation for public health.

- Support knowledge creation regarding capacity for public health in areas such as the following

    - public health capacity as a precondition for needs-oriented, effective and efficient public health services;

    - effective organisation of public health services, besides other evidence-based knowledge on structures, capacities and expertise for public health in national and regional Ministries of Health;

    - how to best use existing programmes and funds for (sustainable) development of public health capacity;

    - how to overcome shortages in the public health workforce by maximising effectiveness and efficiency in public health (e.g., by increasing health literacy, introduction of ICT services in cooperation with DG Information, Society and Media);

    - performance of public health services (besides capacity, the performance of public health services is of major relevance, and respective assessments are needed. A system of 'tracers' could be used to monitor and assess the practices in EU Member States);

    - knowledge of good practice examples of public health capacity building for developing recommendations that show how ideas to strengthen public health capacity could be translated into action.

- Support knowledge creation with regard to the stages of the policy cycle:

    - knowledge of good practices in developing priorities for public health services (e.g., development and implementation of health targets) to systematically guide the development of public health services and programmes;

    - knowledge for effective policy development (case studies on well-functioning and harmful policies);

- knowledge for effective implementation, including knowledge of Member States' considerations and implementation of European Commission reports on relevant public health issues by public officials as well as the general public (e.g., it could be useful to undertake analyses to see if there are any media coverage or national debates on the Commission's report on the Social Determinants of Health);

- knowledge about effective evaluation of policies.

- Support the development and application of various assessment of methodologies such as Health Impact Assessment (HIA), Health Technology Assessment (HTA), Health Needs Assessment and related instruments. Establish European reference networks for the application of these tools and create platforms to bring together public health researchers, policy makers and practitioners to discuss the potentials and challenges of sharing knowledge on best practices and capacity building. Facilitate the exchange of related reports and manuals.

- Organise the collection of comparable data and information.

    - Across Member States, health information systems are in place albeit with differences in quality and availability of data. EU added value can be provided by increasing data comparability across countries and identify best practices.

    - Continue to support the development of information and data interfaces such as HEIDI that function as a search tool for European health data for a wide public and public health professionals.[21] HEIDI could be further developed by applying clear protocols and sustainable organisational structures. This would be necessary to ensure the validity and consistency of data and information both in HEIDI and in comparison to similar tools. Linking this to ongoing developments in European Community Health Indicators (ECHI) or Healthy Life Year (HLY) indicators, it will be necessary to ensure further a system that permits comprehensive, sound comparisons and mutual learning across countries. This platform's transparency,

[21] For more information, see: https://webgate.ec.europa.eu/sanco/heidi/index.php/Main_Page

availability and user-friendliness should be optimised to encourage use by a broad European audience.

- HP-Source.org can be used as a clearinghouse for national data, programme sharing, and professional contact-information exchange.

- Disseminate explicit, practical knowledge.

  - Support increased knowledge and training for public health practitioners and organisations.

  - Support the development and exchange of information on good practices (e.g., twinning, coaching etc.), consider Joint Action Programmes for public health capacity building in the Health Programme, and support the development of guidelines for quality assurance in public health services.

  - Facilitate translation of research findings into policy and maximise the potential of research in practice with links between academia and policy makers. Provide a platform for communication that accompanies the whole process of policymaking (assessment, policy development, implementation, evaluation).

5.2.3 Financial resources

Create sustainability for public health in times of financial shortages

219. In times of financial shortages, EU activities form an important pillar of continuity in many Member States. As reported by some countries, EU funding sometimes formed the only reliable resource for public health research and projects. Ensuring the financial stability and sustainability of these activities and projects across the Member States is of paramount importance to maintain the current state of public health programmes and services in many countries. The EU should facilitate discussions with Member States on creating financial sustainability of Member States' public health services. Creating financial sustainability is a fundamental element of good governance. The importance of sustaining and developing public health functions needs to be advocated even more explicitly by all public health communities and relevant European institutions as a healthy population is an important contributor not only to social cohesion and well-being, but also to economic growth and wealth.

220. **Recommended actions:**

- Ensure that the need for effective public health systems are considered in dialogue with Member States on reforms of health systems.

- Consider the development of a long-term strategy for building public health capacity, which includes clear responsibilities of Member States as well as European institutions in providing a 'basket' of essential public health services.

- The EU has only limited financial resources to contribute directly to the financial sustainability of public health services in its Member States. However, the EU can create and support closer collaboration across Europe to identify a common agenda and set incentives to take the issue of financial sustainability into account.[22]

5.2.4 Workforce

Define, assess and strengthen the public health workforce

221. In many EU Member States, a set of core competencies for professionals working in public health is not defined. Although there is awareness of the need for the definition and adoption of core competencies very little has been done so far.

222. Working in public health services seems to be relatively unattractive in many countries. Career opportunities are lacking. The economic and financial crisis has led to substantial cuts in public budgets, which also affect human resources and infrastructures for public health.[23] The findings from this study highlighted that some public health infrastructures in Europe are already severely threatened. Besides the negative implications for population health, this could also lead to a loss of well-trained and experienced public health professionals, as the current workforce will be forced to seek employment elsewhere.

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[22] This is already partly addressed by the reflection process on effective ways of investing in health, carried out at senior level in the Council Working Party on Public Health.

[23] The European health sector still has the highest growth in employment since 2008. To what extent this growth has occurred in health care compared to public health remains to be evaluated.

223. The EU already supports ongoing activities aimed at defining and strengthening competencies for public health workers; it should continue to do so. For instance, the CompHP Project, supported by the Galway Consensus Conference, aims to develop competency-based standards and an accreditation system for health promotion practice, education and training that will positively impact on workforce capacity to deliver public health improvement in Europe.

224. **Recommended actions[24]:**

- Support exchange of information between Member States in attempts to define and quantify the workforce for public health.

- Assist the exchange of information and good practice on national and local activities regarding the development and deployment of people working in public health.

- Support the definition of internationally recognised competencies. This can raise the attractiveness for young professionals, considering the relatively scarce incentives and career opportunities.

- Cooperate with ASPHER, EUPHA, UEMS, IUHPE and other relevant European health organisations on the development of professional standards for the academic and non-academic, medical and non-medical workforce including by facilitating accreditation procedures and sustaining support for the development and quality of Schools of Public Health in EU and accession countries.

- Give recognition to ongoing efforts to promote the development and quality of Schools of Public Health in EU and accession countries over the next several decades.

- Support Lifelong Learning Programmes for public health professionals, addressing a broad range of competencies, ranging from epidemiology and statistics to public administration and management, political sciences, law and economics.

[24] Some of these actions may already partly be covered by the Commission activities, including a planned Joint Action on workforce planning.

- Support initiatives to strengthen public health activities by harnessing the contribution of non-public health professionals (e.g., social workers, teachers.) to public health objectives. Assess the status of relevant public health activities and content in respective educational programmes. If appropriate, contribute to the development of respective content and support the translation into practice.

5.2.5 Organisational structures

225. Strengthening organisational structures in the current European context is not an easy task. Large differences in organisational set up, continuous change due to ongoing reforms in Member States and large diversity in capacities make generalisable recommendations for EU support difficult. Nevertheless, some recommendations are given below:

226. **Recommended actions:**

- Support European-wide debate on the importance of well-functioning public health infrastructures for well-being and economic growth.

- Consider the possibilities for EU support for a European Academy for public health professionals / European School of Public Health for postgraduates.

- Support the strengthening of collaborations between public health and health care services to increase the role of health care services for health promotion and diseases prevention.

5.2.6 Partnerships

Partnerships to achieve Health in All Policies

227. Effective public health policy making and implementation requires a wide range of partnerships at all levels. These include mechanisms for joined up 'Health in All Policies' approaches at national and local levels; ways to engage with stakeholders and communities; cooperation between professional groups in the health sector; and EU and global cooperation.

228. The EU has played an important role in taking forward the principles and practice of public health partnership. Article 168 of the Treaty on the Functioning of the European Union sets out the requirement for all EU policies and activities to provide a high level of health protection. 'Health

in All Policies' is an approach embodied in EU Health Strategy endorsed by Council Conclusions. The EU health policy forum, EU platform on diet, physical activity and nutrition and EU alcohol forum all provide examples of practical partnerships at the EU level. The EU has provided financial support through the EU health programmes, the PROGRESS programme, employment and social fund for partnership building at EU and national levels, including operational grants to a wide variety of public health organisations.

229. Despite the difficulties in assessing this domain at the national level, clearly there are large differences in the level and sophistication of partnership building. A number of countries have rather low levels of stakeholder engagement in policymaking. The EU could do more to support this process, concentrating particularly on those parts of the EU with the greatest need.

230. **Recommended actions:**

- Support studies on creating synergies for public health between the public and private sectors.
- Facilitate exchange of good practice on partnership building between government and stakeholder groups on public health.
- Consider further mechanisms to support development of non-governmental organisations with an interest in public health, particularly in those parts of the EU that appear less well served with such organisations.
- Explore the possibilities to support increased cross-border cooperation on public health.

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Annex A: Country profiles

Strengths, weaknesses and recommendations per EU Member State

The following tables were developed on the basis of the findings from the Public Health Capacity Assessment Tool. Information from the tools was analysed and sent to the national experts for additions and validation. It should be noted, that the information presented in these tables is largely based on expert judgements and does not claim to be fully comprehensive. Rather, they should be regarded as a snapshot of public health capacities at the national level, to be investigated more in detail in future analyses. Data collection for these profiles was finalized by mid-2011. The presented country profiles therefore describe the situation in the Member States at that point in time. It should be noted that the information provided in these country profiles can go beyond the capacity domains previously identified. This was due to some national experts' decision to also highlight issues that were not necessarily covered by the capacity framework.

Austria (2011)

Strengths	Weaknesses
• Qualified personnel for public health are gradually increasing due to an increasing number of public health-oriented training courses and curricula • Various actors are incorporating a public health approach into their work (e.g., determinants of health and health inequity) • Financial resources allocated to public health-related services are increasing, indicating a rising awareness of these services	• Perceived shortage of public health professionals. Currently only 300–400 people have postgraduate training in Public Health • Little cooperation on public health matters in health sector and across other sectors • While reporting on population health does take place, recommendations are often not taken up in policy making • Public health activities are often short-term projects instead of sustainable long-term programmes • Strong imbalance in favour of curative health services, reflected by funding, resource allocation, service provision and training structures • Lack of policies addressing social, environmental and behavioural health determinants • Lack of public health career options

Recommendations

- Develop a better understanding of the role of public health for Austria
- Create public health targets aiming at the determinants of health, accompanied by well-funded sustainable programmes and strategies. Involve a broad selection of stakeholders in the target-setting process
- Facilitate public health expertise in decision making at national, regional and local levels
- Fund public health training and research at all levels; ensure continuous training of health professionals; ensure public-funded research programmes in public health
- Establish an Austrian Institute of Public Health drawing on examples in EU countries

Belgium (2011)

Strengths	Weaknesses
• A designated high authority with a clear mandate for public health • Legislation provides a clear outline on responsibility and accountability at governmental level for setting up structures to assess, protect and promote the health of the population • Specific measurable (public) health objectives were formulated in a health conference and approved by the Flemish Parliament; objectives for health promotion are also defined in the French and German speaking regions (Gerkens & Merkur, 2010) • Governmental funds are generated in various sectors to enable intersectoral interventions to promote gender equity and health and target vulnerable groups for health • Strategies and planning for public health include enhancing the capacities of public health-related institutes/ organisations/agencies	• Fragmented approach to communicable disease prevention may complicate common rapid responses • Core competencies for the public health workforce are not clearly defined • Relative lack of attractiveness of public health careers

Recommendations

- Strengthen capacity to monitor the health needs and demands of the population
- Redefine and strengthen the role of nurses and health care assistants for public health
- Find ways to improve the attractiveness of the public health profession (i.e. through financial incentives and better working conditions)

Bulgaria (2011)

Strengths	Weaknesses
• Formal administrative structures for public health are established • Country has a system designed to identify potential threats to population health in place; there is a network of laboratories capable of supporting investigations of public health problems, hazards and emergencies • Regional Inspectorates of Public Health Protection and Inspection are relatively autonomously utilising a multisectoral and multilevel approach in their work, developing effective collaboration with other sectors' institutions (Georgieva et al. 2007) • National plans are in place to address public health threats and emergencies • Capacities for public health training and education are available	• Public health activities are often not based on research, evidence and best practices • Public debate on health is dominated by themes such as the organisation, management and financing of hospital care, and public health problems are often neglected • Incomplete formulation of laws and regulations and inconsistent implementation in practice • Worsening demographic, social and health indicators with a significant difference between urban and rural population • Lack of cooperation among different institutions on health issues • A large proportion of health sector-based NGOs do not interact with other NGOs and thus limit their capacity for development and work on projects

Recommendations

- Focus on strengthening information and reporting systems. Public health needs to be more strongly based on scientific input and data
- Strengthen intersectoral cooperation between organisations working in fields relevant to public health (e.g., social policy, environment, transportation)
- Develop further undergraduate and postgraduate programmes in Public Health
- Increase investments in training and professional development for public servants working in public health-related areas
- Introduce more cost-benefit analyses of public health and health care expenditure

Cyprus (2011)

Strengths	Weaknesses
• Public health authorities have capacity to assess the needs of the population for disease prevention, health education and health promotion • Legislation provides a clear outline on responsibility and accountability at government level for setting up structures to assess protect and promote the health of the population • Preventive health care services, screening programmes and health education are expected to be further encouraged as Cyprus strives to meet its Health for All targets	• No association in place that could act as an advocate for public health matters • Training and education capacities for public health are somewhat weak • Tertiary Public Health programmes do not exist yet at Bachelor level • Not much knowledge on the public health workforce as it is strongly intertwined with the health care workforce • Financing for public health is difficult to estimate due to diverse funding streams and purposes

Recommendations

- Ensure continuous professional development in public health through training, education and incentives of the health workforce to also strengthen their public health focus
- Support the formulation and implementation of public health targets
- Improve the availability and quality of indicators regarding mental health and disabilities in the population
- Strengthen mechanisms for monitoring and evaluating public health and the implementation of the health promotion programme
- Investigate in detail the workforce fulfilling public health tasks to better understand the available public health capacities and to plan accordingly
- Strengthen education in Public Health at all tertiary levels

Czech Republic (2011)

Strengths	Weaknesses
• Relatively well-developed health policies in some regions, including well-functioning public health services • Public health authorities are able to assess the needs of the population for disease prevention, health education and health promotion	• Strategic planning for public health services has not been a government priority • Public finance contributions to public health have decreased in recent years (more than 10% annually) • No analytical tools or monitoring mechanisms to create valid data on social determinants of health and lifestyles • Most collected health information focuses on economic indicators of health care and drug consumption but not for the public health domain • Current system of resource allocation does not support all regions • Definition of competencies and career paths for public health professionals is not well developed

Recommendations

- Increase of the role and responsibility of municipalities in public health development; decentralising some public health issues should be considered
- Capacity building through strengthening ties with ECDC, EUROSTAT and research in general would be helpful
- Strengthen career opportunities and incentives for professional development in relation to public health and health promotion
- Create a professional association for public health to unite the currently fragmented public health professions and play a stronger advocacy role
- Reverse the trend towards less financial commitments to public health and develop an independent item of expenditure for public health in the national budget
- National legislation and policy makers have to be more responsive to New Public Health tasks
- Strengthen legal mechanisms and policies to support formal partnership building between NGOs, civil society, and government to address public health priorities

Denmark (2011)

Strengths	Weaknesses
• Explicit awareness/focus on and societal responsibility for social health inequalities at government level • Strong financial incentives at municipal levels to promote health • Long tradition of health registries that facilitate research and monitoring • Well-functioning ICT systems that allow enhanced communication and effective coordination across sectors • Strong tradition of partnerships across public, private and voluntary institutions • Established national indicator systems for effective monitoring of public health status and developments	• Shortage of health professionals in the some areas • Large knowledge gap on migrant health and potential avenues for health promotion • Lack evidence base in some practical areas of health promotion/disease prevention • Relative weakness in regulatory approach to public health. Failure to reinforce the 2007 smoking ban in restaurants and pubs

Recommendations[25]

- Stimulate possibilities for regulation in areas of public health (e.g., increase legal age for purchasing alcohol from 16 to 18 years; ban alcohol advertising in media; significantly increase tax on sugar and fat; endorse mandatory food labelling on all food products; systematic use of the Nordic food labelling symbol)
- Revise education/provide continued training of public health professionals, specifically tailored to respond to the challenges of chronic diseases and an ageing population
- Reinforce cross-sectoral collaboration (e.g., health promotion initiatives at workplaces and schools)
- Develop a strong evidence base for practical implementation of disease prevention (involves collaboration between practical prevention and research to create evidence-based models for implementing knowledge, and systematising results for establishing evidence-based future initiatives)

[25] Derived originally from the recommendations offered by the Prevention Commission in 2009 (Forebyggelseskommissionen. Vi kan leve længere of sundere, 2009).

Estonia (2011)

Strengths	Weaknesses
• Mechanisms to monitor and evaluate implementation of public health and health promotion programmes • National Institute for Health Development participates in the developmental process of European health information systems (DG SANCO and EUROSTAT); delivers internationally comparable health care statistics to domestic and international organisations (Statistics Estonia, EUROSTAT, WHO, OECD, etc.). • Most health programmes take specific needs of vulnerable groups into account	• Large regional differences in capacity to perform public health services • Fragmented public health activities due to a lack of an overall framework that defines responsibilities and goals • Disease prevention services are available only to insured people, excluding others from screening programmes financed by insurance funds • No systematically delivered basic or continuous education of public health specialists • No link between health information system and other comprehensive information sources on the population (due to strict data protection policy; permission procedures to link data are implemented on behalf of residents)

Recommendations

- Improve collaboration in terms of sharing and harmonising information and data across all institutional levels
- Develop a public health workforce/human resources strategy, which ensures that the public health workforce is sufficient in numbers to address the population needs
- Increase and ensure investments in infrastructure, information systems and human resource development; increase financial support to local public health authorities and municipalities
- Give more emphasis on better vertical and horizontal links between health care, public health and social sectors and support service models
- Establish and clarify the mechanisms of data collection and analysis at national, regional and local level to support evidence-based policy making; taking into account the needs of different target groups

Finland (2011)

Strengths	Weaknesses
• Well-developed integration of public health activities into health care infrastructure • Long tradition of public health and Health in All Policies approaches in health policy • Comprehensive legislation for public health and social well-being • Education for public health largely available at all levels of higher education • Many public health activities are strongly integrated into decision making and polices at the local governmental level	• Fragmented public health system is not always optimal and requires well-organised coordination • Responsibilities for public health are outlined in legislation but in practice are fragmented and unclear. This applies to the cooperation between ministries (at national level) and between sectors at the municipal level (e.g., environment, health care and infrastructure) • Substantial variation across municipalities with regards to public health services • Resources (e.g., human and financial) allocated to public health functions are in some cases inadequate

Recommendations

- Strengthen capacity building in health needs assessment and health promotion
- Establish clearly defined responsibilities for public health; agencies/institutes should be provided with clear mandates and accountabilities for public health actions
- Support more collaboration across organisations that are occupied in the fragmented public health arena
- Create more coordination horizontally and vertically within public administrations
- Allocate resources specifically to public health activities

France (2011)

Strengths	Weaknesses
• Well-developed infrastructure for the delivery of public health services • Governmental commitment to public health • National long-term strategy to handle current and future public health issues • Capacities for public health education are well developed	• Only few partnerships for public health established; most activities are organised centrally by the government • While France has good basic health indicators (e.g., life expectancy at birth) it has fewer performance indicators for avoidable, premature death (below 60 years), healthy life years lost • Large socio-economic and gender-related health inequalities; policies directed towards reduction of health inequalities have a narrow perspective or little effect (Chevreul, 2010) • Importance of disease prevention and health promotion still largely neglected in comparison to treatment and cure

Recommendations

- Focus on the reduction of health inequalities through addressing population groups where health outcomes are not favourable and through addressing the reduction of geographical disparities
- Fill the gap between research and practice by better integrating research, interdisciplinary academic circles and policy makers
- Move to higher level of comparative effectiveness in research and practice, to provide a more evidence-based policy approach in facing complex interventions in public health
- Reinforce the role of GPs and pharmacists in public health, particularly for health promotion and prevention
- Include all stakeholders (e.g., students, professionals, health authorities, academics) in the definition of needs, programmes, and certifications for public health education
- Reconsider and increase the proportion of health expenses dedicated to public health
- Foster more partnerships between academic and public health agencies/authorities
- Search for public/private partnerships that are compatible with public health ethics

Germany (2011)

Strengths	Weaknesses
• Education for public health has increased substantially in the past 20 years with the emergence of Schools for Public Health • Federal and regional governments are relatively successful in non-smoking legislation and campaigns (including non-smoker protection) • Universal health insurance coverage, regardless of employment or health status. This has important implications for access to disease prevention and health promotion programmes • 2011 was declared the Year of Science with an emphasis on: epidemiologically relevant diseases; individualised medicine; prevention, nutrition and knowledge transfer	• Little integration of public health services with primary and secondary ambulatory care, and hospital care • Strong imbalance in favour of curative health services; little emphasis on public health as an important pillar of the health system • Political targets often prevail over scientific evidence in the implementation of policies and regulations • Health inequalities between sub-populations and regions • Political climate does not consider increased spending for public health activities • Different levels of capacity across local health services and in some areas, local health services cannot fulfil all relevant functions as the financial situation of many cities and communities is precarious

Recommendations

- Create a better understanding of public health among policy makers and the medical professions
- Strengthen collaboration between medical and public health professions to face health inequalities and the social determinants of health effectively
- Build capacity in the local public health infrastructure

Greece (2011)

Strengths	Weaknesses
• Awareness of the need to improve of health indicators has increased recently. This awareness is evident in statements by the political leadership of the MoH about the necessity to implement policies that promote health and prevent disease • Specific laws for the control of smoking in public places have been ratified by parliament over the last few years • Awareness of the health risks associated with unhealthy lifestyles is growing among the population	• Staffing levels and funds for all public health services are limited and likely to decline due to financial and economic crisis • Public health services are traditionally regarded as less important in comparison to the development of a health care services system (Economou, 2009) • Little evidence-based decision making and few specific policies to address socio-economic inequalities • Focus of hospitals and health centres remains strongly on diagnosis and treatment, with very few public health activities • Crisis situations (e.g., H1N1, avian flu, dioxins) have not led to a sustained effort to develop robust public health strategies and capacities in the country

Recommendations

- Alleviate the negative effects of the economic and financial crisis on the (public) health system
- Increase the percentage of public health expenditures compared to health care
- Funds earmarked for public health actions should be identified in the National Budget
- Ensure an adequate number of trained public health specialists and staff to sustain public health service delivery
- Communicate evidence-based research findings and best practices to policy and decision makers more effectively
- Integrate disease prevention and health promotion services in primary care services

Italy (2011)

Strengths	Weaknesses
• Substantial steps in improving population health, through preventive and therapeutic measures taken in the last 30 years (Lo Scalzo, 2009) • Public health organisations have well-developed, internationally recognised capacities to cope with emergencies at national and regional levels • Three professional associations are committed to advocate for more public health-oriented policies and practices at national and regional levels • Higher Health Council provides highly-reputed technical and scientific opinions to the Minister of Health • The decision to provide veterinary services as part of health promotion provision at the local level, a unique case in Europe, can help tackle food-borne diseases transmitted by animals more effectively	• Strong regional disparities in health status and in the provision quality of public health services • Health information system is not fully capable of monitoring and translating findings to decision makers • Scare experience with the application of Health Impact and Health Needs Assessments • Public health thinking is still largely based on infectious or environmental pathways of disease and less oriented to integration, multiprofessionality and efforts to face social and behavioural determinants of health and disease • No government mechanisms exist to support high quality research

Recommendations

- Strengthen capacity to tackle the ongoing increase of health inequalities across regions effectively
- Increase the number and ameliorate the governance of intersectoral plans/actions on public health issues (e.g., nutrition, alcohol and tobacco consumption, air pollution, physical exercise)
- Strengthen public health competencies of the workforce with capabilities related to New Public Health issues
- Increase evidence-based health promotion and prevention (in priority setting, planning and evaluation)
- Empower citizens to better understand behavioural determinants of health and improve their health accordingly

Latvia (2011)

Strengths	Weaknesses
• Some education, training and development capacities are available • Increasing awareness in the population of public health and healthy lifestyles • Communicable disease surveillance is adapted to EU requirements, including notification of infectious diseases to the European Centre of Disease Control in Stockholm (HIT)	• Major reductions of funding for public health and the closure of the Public Health Agency have led to a difficulties in developing and delivering public health policies • After budget cuts in 2009, current laboratory network cannot complete all public health-relevant tasks • Lack of capacity to deal with health inequalities due to growing poverty • Trained public health professionals take up work in other sectors, as there are very limited opportunities to work in the field of public health • No funding for public health research. Most public health research is funded by EU projects, almost the only source

Recommendations

- Recognise and reverse the recent decline in the public health system
- Consider the establishment of a public health institution to organise cooperation with other bodies and promotes cross-sectoral cooperation in public health field
- Increase financial resources for public health and ensure that an adequate percentage of the national health budget is spent on public health and health promotion
- Ensure the implementation and sustainability of existing public health policies that would benefit population health
- Ensure a more professional and evidence-based approach in strategic planning for public health
- Formulate a formal strategy to guide the development and deployment of the public health workforce; create opportunities and incentives for professional development in relation to public health and health promotion

Lithuania (2011)

Strengths	Weaknesses
• Well-established infrastructure of formal public health services has the potential to provide public health services to the whole population • Health information system in place, which effectively monitors and reports many aspects of population health • Universities and research institutes are very active in the field of public health and well-developed professional expertise is available • Strong commitment in the Ministry of Health to public health-related issues • Major public health challenges have been identified and tackled by policies, such as implementing measures to tackle high rate of alcohol consumption and traffic accidents	• Financial pressure challenges implementation of public health strategies • Spending on public health is not adequate compared to health care spending; expenditures on health care and particularly on public health and health promotion are generally inadequate, unstable and insufficient • No strong focus on economic evaluations and cost-effectiveness studies of public health measures • No clear guidelines on resource allocation to the Public Health Bureaus for the implementation of public health services. Some bureaus are facing considerable financial difficulties

Recommendations

- Ensuring adequate funding of public health activities should be a priority of the health care system. Funds should be generated from different sectors to enable intersectoral interventions and the financial flow should be more stable and predictable
- Achieve better integration of public health with other sectors by improving synergies across sectors, policies and programmes (Health In All Policies)
- Support local and regional public health authorities in assessing and communicating the needs of the population for disease prevention, health education and health promotion, with a special emphasis on vulnerable groups
- Ensure that the public health workforce is sufficient in numbers, equally distributed across the country and sufficiently financially motivated. Professional organisations should be actively involved in developing policies and regulations relevant to workforce training
- Integrate disease prevention and health promotion strategies into the practice of health care services, while health services should be more strongly motivated to work towards health improvement

Luxembourg (2011)

Strengths	Weaknesses
• High accessibility to health services • Well-functioning health protection mechanisms • Strong linguistic capacity to work with European partners • Five social insurers act as important partners in public health-related matters	• Public health thinking is relatively novel • Weak information systems and statistics for public health to support the formulation of relevant policies • No School for Public Health or university with related education or research • Ministry of Health has only recently begun to evaluate health policy; however, not all areas are evaluated • Prevention programmes or public health promotion do not meet the needs of all relevant groups

Recommendations

- More capacity building in the areas of epidemiological statistics and public health policy
- Introduce public health in the training and education of medical professionals, social professionals and educational professionals
- Develop a consistent strategy for public health beyond legislative periods, including general objectives and measurable targets
- Define the role of primary care and hospitals for public health
- Improve the assessment of needs of different groups / cultures /ages / gender of the population and align specific public health prevention or promotion with their needs
- Develop training capacity for public health on the basis of European standards
- Determine competencies in public health for public health practitioners and managers
- Target health promotion and prevention activities to population needs

Malta (2011)

Strengths	Weaknesses
• Very versatile public health workforce able to deal with various competencies in the public health spectrum such as regulation, health promotion, disease prevention and control, health services management, policy formulation, development and implementation, EU and international affairs as well as health information and research • Small geographical size confers advantages such as containment of infectious diseases (HIV, influenza, etc.), implementation of national health promotion campaigns, and outreach programmes • Mastery of English and, increasingly, a second or third European language bridges the geographical separation from mainland Europe and enables public health workforce to learn from experience in other EU countries	• Little capacity for tackling health equity and socio-economic determinants of health • Need for a greater number of public health specialists/doctors

Recommendations

- Develop capacity to identify health inequalities and socio-economic determinants of health; develop the cross-governmental mechanisms to ensure coordination and the effective implementation of interventions to address these
- Build capacity for periodic evaluation of the implementation of legislation, public health policies and programmes
- Increase financial commitment to public health, particularly for further training
- Create and guarantee an infrastructure that supports high quality public health research
- Ensure opportunities for overseas exposure as part of the training programme and continuous development of the public health workforce
- Create career opportunities in the field of public health and epidemiological research
- Develop legal mechanisms and policies to support formal partnerships between NGOs, civil society, and government that will address public health priorities

Netherlands (2011)

Strengths	Weaknesses
• Public health is considered an important pillar of the health system • Various national programmes exist to strengthen population health through a focus on public health • Well-developed capacity for public health at administrative level • Coverage of most health protection programmes is high compared to many other countries (i.e. vaccination rates)	• Health Care Inspectorate (IGZ) concluded in 2005 that national health promotion was too fragmented • Quality of some health promotion projects needs to adhere to certain standards • Funding of Municipal Health Services under pressure in budget reviews

Recommendations

- Ensure financial stability for public health services
- Consider further work to enumerate and document the capacity of the public health workforce
- Improve mechanisms to evaluate successful local public health initiatives and transform them into national public health actions and vice versa
- Carry out work to create more integrated provision of activities in primary health services

Poland (2011)

Strengths	Weaknesses
• The National Health Programme guides development of public health • Well-developed system of infectious diseases surveillance to support management of public health emergencies • Periodic government reports define common public health objectives, priorities and strategies • Network of many scientific societies actively advocating for public health	• No public health workforce strategy that can guide systematic development and deployment of the public health workforce • Competencies for the public health workforce are not defined or developed • Lack of capacity to approach social and health inequalities effectively • Many health promotion programmes are tailored to local needs, supported and created by NGOs, but insufficiently based on evidence and best practices

Recommendations

- Establish a register of human resources for public health
- Increase financial resources for public health
- Define a set of core competences for the public health workforce and implement it in education and training of public health workers
- Tailor policies (e.g., in health and social systems) specifically to population needs

Portugal (2011)

Strengths	Weaknesses
• Health equity has been a central goal on the political agenda since the Primary Health Care (PHC) reform of 2005 • A promising rapid alert and response system (SARA) has been implemented for public health emergencies related to food safety, communicable diseases or environmental health (Barros & de Almeida Simões, 2007) • Policies set out in the National Health Plan aim at linking the development of local health systems with New Public Health structures (Barros & de Almeida Simões, 2007)	• Allocation of resources not fully based on the needs of the population • Financial and personnel resources of regional public health centres are often inadequate to meet the needs of the population (Barros & de Almeida Simões, 2007) • No effective accountability mechanisms in place to safeguard health monitoring or planning and implementation of public health services

Recommendations

- Additional capacity building for the health workforce, including integration of public health and medical practice
- Additional capacity building in the areas of needs assessment
- Creating more knowledge and capacity in communities to provide effective public health services

Romania (2011)

Strengths	Weaknesses
• Legislation supports public health as a national priority and provides a policy framework at national and local level • The National Institute of Public Health and its regional centres have a credible voice in promoting public health across organisations and sectors • Long tradition of monitoring communicable diseases and organisations with decades of experience in providing basic public health services • National legislation endorses the equity principle • Some members of parliament support agenda-setting processes for public health	• Mechanisms to involve stakeholders in public health policy planning are poorly developed • Public health policies, plans and regulations are rarely reviewed or revised to address changing trends in health priorities • Socio-economic determinants of health like education, income, or employment status are rarely considered • Specific or systematic health promotion actions regarding vulnerable groups are scarce • Public interest in the importance of preventive medicine is decreasing • Guidelines for implementing the most effective population-based methods to tackle non-communicable disease prevention and control are not widely disseminated or implemented

Recommendations

- Strengthen capacity of local public health authorities to assess the population needs in disease prevention, health education and health promotion at local level
- Clarify the role of the public health structures in the health system
- Initiate more research into public health financing and workforce enumerations
- The ongoing decentralisation process needs more planning and consultation with national and local stakeholders. An evaluation of the local capacity to deal with the respective changes for public health services should be performed
- All government decisions should include a section describing the justification of the proposed change and its impact on society, the environment and the national budget. The impact on society includes the impact on the health status of the population. If any proposed change has implications for public health or the health system, it should be pre-approved by the Ministry of Health
- Strengthen mechanisms and expertise to assess cost effectiveness of interventions and plans for resource allocation should be strengthened

Slovakia (2011)

Strengths	Weaknesses
• National and regional institutes with a clear mandate for public health are in place • Various training and professional development opportunities for public health at university level • Political commitment to strengthen public health and health prevention (Szalay et al. 2011)	• Although policies for public health are in place, responsibilities are unclear and there are no funding schemes developed to implement the policies • Funds are only sufficient to sustain existing infrastructures • Competencies for public health practitioners are not well defined

Recommendations

- Build additional capacity in the Ministry of Health by creating a strong public health unit
- Develop the areas of public health research, policy development, practice and training, ensuring support by appropriate funding systems and mechanisms
- When determining public health priorities, a holistic approach to health should be taken
- Improve cooperation between public health practitioners, health care providers, institutions developing their activities in public health, and decision makers
- Develop tools and mechanisms for intersectoral public health governance
- Establish an organisation responsible for providing national guidance on promoting good health and preventing and treating ill health
- Harmonise public health workforce competencies with international standards

Slovenia (2011)

Strengths	Weaknesses
• The transition from one political system to another has led to maintaining positive facets of the 'old' health system while taking up modern approaches to public health • Strong leadership through the important contributions of the Andria Štampar institute to the development of both public health as a discipline and as public health institutions • Long tradition in intersectoral work (e.g., health and education, and social affairs) following a Health in All Policies approach • High level of social transfer measures (e.g., support for low income families and individuals) • Social determinants of health and lifestyles have been more intensively defined in recent years	• Local governments do not play a very active role in decision making for public health as was envisioned by legislation • Population needs are growing but resources allocated to public health are not following this trend • Social responsibility of the private sector is at a relatively low level • Inequalities in all regions, where risk factors include lower levels of education, unemployment and ethnic-minority status

Recommendations

- Increase spending on public health and health promotion
- Increase the percentage of public health programmes targeted at vulnerable groups
- Develop a formal Health in All Policies approach that acknowledges the need for capacities in Health Impact Assessment
- Institutionalise periodical reporting on population needs at national and regional levels
- Undertake a regular review of national plans for public health emergencies
- Ensure professional standards for public health professionals
- Introduce a multi-annual programme for public health with measurable goals

Spain (2011)

Strengths	Weaknesses
• Major population health needs are addressed in public health policies at the national or regional level • Equity in health is a government priority in many regions and at the national level • Strategic policy documents, such as Regional Health Plans or National Strategies or Programmes, usually use an evidence-based approach • Ministry of Health has drafted a 'General Law of Public Health', which addresses many current and future public health challenges	• Quality and amount of evidence for informing policies could be improved, at both regional and national levels • Information systems require further development to fully identify needs at the local level • Health impact assessment (HIA) is seldom done • Public health workforce does not fully meet the needs of the public health system; problems with the number of professionals and regional distribution • No official strategy to guide ongoing development of public health workforce • Evaluation of the impact of public health policies and programmes across the social gradient is not done regularly

Recommendations

- Create a politically agreed strategy to develop high quality public health services and activities
- Increase proportion of spending on public health vs. personal health care services
- The role of local authorities in public health should be increased and improved, providing the local level with human, financial and technical resources; substantially increase the portion of budget devoted to public health services, at regional and/or national level
- National government and regions should improve health information systems and ensure sufficient capacity for further development, including instruments other than mortality data and cross-sectional periodic surveys
- Additional efforts should be undertaken to coordinate, define and improve evaluation of the impact of other public policies on public health (HIA)
- Pay greater attention in the public health system on implementation, monitoring and evaluation of policies, in comparison to policy development
- Establish an 'independent' public health authority/institution to help coordinate relevant issues (emergencies, etc.) between regions, and between regions and the national level

Sweden (2011)

Strengths	Weaknesses
• Long tradition of pursuing what is now referred to as public health policy • Public health infrastructures are well developed at all layers of the administrative system (national, regional and municipal) • Well-developed education and training opportunities for public health practitioners.	• Definition and competencies of the general public health workforce need to be further developed • Differences in health status and public health provision across municipalities

Recommendations

- Further pursue integration of social policies and health policies
- Establish and develop organised structures for public health; additional investments in local infrastructure are required (particularly in less developed municipalities)
- Strengthen inter-organisational relationships between the public health system and the private sector and other sectors addressing the socio-economic determinants of health
- Enable formal partnerships and alliances by linking to the political level through established partnerships and collaborations with NGOs, civil society, private sector, international organisations and/or government to address public health priorities
- Develop a multisectoral approach and mainstream public health and health promotion in education and training for public administration workers, especially those from other sectors with an impact on health, e.g., the education system; Focus on social determinants of health in health policy formulation
- Establish rewarding mechanisms for partnerships and collaborations between actors; provide incentives for coordination at national, regional and local level between sectors
- Support and strengthen public health research, including increased level of funding, creating stronger training programmes and improving career opportunities; develop a public health research agenda that is responsive to policy
- Improve funding for general public health activities to better balance it with earmarked funding for specific risk factors
- Strengthen public health monitoring at all levels (national, regional and local) to encourage decision makers to address public health issues

United Kingdom (2011)

Strengths	Weaknesses
• Public health is recognised as an important pillar of the health system • Well-developed public health information systems at national and local levels • Well-developed public health competence framework and career paths	• Cutbacks in public (health) services are expected • Uncertainty about current proposals for reform of the public health function in England (see footnote 5 on page <>)

Recommendations

- Build competence across all sectors that can contribute to the health of the public within and beyond health care
- Develop skills and knowledge (competences) in the wider workforce (i.e., those who make an impact on the population's health through their role but would not necessarily call themselves public health workers e.g., teachers and urban planners. This workforce already exists and needs recognition and awareness-raising of their potential contribution
- Improve information linking environmental factors and others (e.g., transport, planning) with health outcomes (e.g., to effect behavioural change)
- Ensure public health retains its influence across all sectors and at all levels by carrying out health impact analysis on all public policy; ensure that importance and relevance of public health is well understood by all sectors
- Strengthen multidisciplinary/multisectoral public health workforce that is adequately resourced to meet the needs of the population
- Ensure adequate investments in health and well-being
- Ensure that proposals for developing a new Public Health Service in England lead to enhancement of links with academia to expand capacity, and translate research into practice, and ensure that more undertaken research is informed by service needs
- Additional research funding in areas such as evidence to support behaviour change