Developing the Public Health Workforce in Europe

THE EUROPEAN PUBLIC HEALTH REFERENCE FRAMEWORK (EPHRF): IT'S COUNCIL AND ONLINE REPOSITORY

Concepts and Policy Brief

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Background

To strengthen the development and maintenance of a sufficient and competent public health workforce and in parallel to the developments in many other disciplines during the last two decades, also the planning of public health education and training programmes has increased the focus on the outcome of education and training in terms of the competences achieved and the relationship of these competences to the performance in relevant job functions. ASPHER started its European Public Health Core Competences Programme in 2006, involving in the first place about 100 European public health researchers and teachers and, later, ministries of health and public health practitioners, in the discussion of the selection and definition of competences, their practical implementation at systems level as well as for individual career planning, and the establishment of an organisational structure, a council, to ensure the future development of the lists (1,2). As indicated in WHO's European Action Plan for Strengthening Public Health Capacities and Services (EAP) (3) – part of the Health 2020 Strategy – the third edition (2011) of ASPHER's lists of competences (4,5,6) was endorsed in 2012, by WHO Europe's member states, to be included in the planning of public health education in Europe. Moreover, in 2013 WHO Europe delegated the responsibility to ASPHER for leading its working group concerning assuring a sufficient and competent Public Health workforce (Essential Public Health Operation (EPHO) No. 7) (7). Balancing with these trends and supported by EU PHP operating grants (ASPHER FY2011, ASPHER FY2012, ASPHER FY2014), ASPHER in 2013 initiated its *ShapePH* programme, aiming at shaping the public health profession across Europe and sustaining comprehensive and coherent systems for public health services delivery. Accordingly, an important part of the *ShapePH* programme is the creation of the Council and the Repository under the European Public Health Reference Framework (EPHRF).

The EPHRF including its Council and Repository is intended to play an important role in ASPHER's policies, and the following text clarifies the background and context as well as the structure and content of this role. The text is in balance with but naturally intends to further develop ASPHER's policy in general, and with ASPHER's position paper concerning the EAP (8).

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Contents

The paper has been structured with the following sections:

Public health – what is it:
A multitude of individual activities – or a coherent discipline?

In the professional context – as mirrored, e.g., in the name of national professional associations as well as in a multitude of textbooks and scientific journals and in the European lists of competences for the Public Health professional (4) – the term 'Public Health' is the name of a conceptually coherent discipline. Moreover, the term 'Public Health' sometimes is perceived rather as an umbrella labelling of a heterogeneous multitude of mutually preferably un-related concepts and activities. The interesting question then is, how this discrepancy can be explained.

Today's European Public Health national and cross-country scene still presents itself with:

- A split into multitudes of separate educational and training programmes (e.g., epidemiology, health protection, health management) besides the comprehensive public health education and training programmes (bachelor, master, PhD, Continuing Professional Development (CPD) in general public health) (9), and, accordingly, presenting with:

- Equally numerous occupational entities corresponding to separate public health functions and services - in general:

- Without reference to a comprehensive and coherent system for the delivery of public health services, i.e., *(1)* observation and analysis of population health, *(2)* goal-setting and choice of target groups, *(3)* assessing and selecting evidence-based intervention, *(4)* and planning, implementation and *(5)* follow-up of the target groups after adequate intervention.

The background for the still dominant, prevailing lack of system cohesion relates to the medical roots of Public Health history. The crucial importance of this for the development of Public Health cannot

be overestimated; from the medical perspective, Public Health, however, is one among many medical specialties, and the notion of a multitude of services (e.g., disease prevention, health promotion) for prescription is well in balance with general and well-proven clinical medical philosophies, lines of thought and practice. The strength of this tradition is still more outspoken in Eastern Europe than in Western Europe, where Public Health educational, training and research systems during many years have invited students with other than medical backgrounds (9,10).

All in all, the practical public health situation is weak, and the relationship to biomedicine is unbalanced. The public health landscape may be described as characterised by a multitude of *'soldiers without an army'* rather than what it should be in order to be able to act effectively, namely *'an army with soldiers'*. Additionally, public health workforce members' education, training and competency profiles are heterogeneous and much of it unregulated, developed, as they often are, without much – or any – planning at a community systems level. Applying again the army analogy, it is evident that no general would ever dream of working under such circumstances. A unifying strategy is called for, as also indicated in the WHO EAP (3).

A sufficient public health definition – and its relationship to medicine

The lack of consistency described has been mirrored in a prolonged discussion about the definition of the Public Health discipline. Moreover, as is the case for other scientific and practical disciplines, the most precise and logically consistent definition of public health is based on its subject, which is:

1. Population health, and:

2. Interventional systems – structures and operations – aiming at the sustainment and development of population health (e.g., health protection, health education, disease prevention), and, finally:

3. The interaction between the two.

Some important, individual objectives of public health was expressed by the British 'Committee of Inquiring into the future development of the Public Health Function' in 1988, namely that *'Public health is the science and art of preventing disease, prolonging life and promoting health through the organized efforts of society'* (11). This definition however does not distinguish between clinical medicine and public health, as any of these activities can be found as part of patient-oriented clinical work. Moreover, public health includes many other, mutually coherent components, so that, e.g., mapping, analysing and forecasting population health (based on population epidemiology), protection of the population's health, prolonging the disease-free part of life also are core activities in public health. For instance, no population targeted prevention programme based on scientific evidence could be developed and implemented without mapping and analysing the population's health (which, as seen, is not included in Acheson's definition). This multitude of mutually dependent aspects, balancing with the comprehensiveness of the definition above, is reflected in European and other lists of competences for public health professionals as well as in WHO's ten EPHOs, which span from

population surveillance and monitoring over population interventions to public health workforce development and other systems aspects.

Thus, returning to the difference, by definition, between medicine and public health, medical knowledge has a natural role in Public Health, but the focus of medical science and practice is qualitatively different from that of public health, from a theoretical as well as practical point of view:

- *Medicine:* Focus - the *individual patient,* with:

  o The main focus on the *individual profile* as concerns biology - the *milieu interieure* - supplied with individual mental and social parameters, and:

  o The precision of individual diagnosis,

  o The development over time of individual health and disease parameters,

  o The effect of individual treatment, rehabilitation and care, and:

  o Medical ethics, oriented towards the individual patient.

- *Public Health:* Focus – the *population,* with:

  o The main focus on the *population profile* as concerns biology, psychology, social, economic and material conditions of living - the *milieu exterieure* – and on the structure, organisation, economy and functioning of interventional systems (irrespective of their type), and:

  o The precision of population surveillance and systems monitoring,

  o The development over time of population health and disease parameters,

  o The effect of population directed interventions – health education, health protection, disease prevention – whether concretely implemented at population level or at individual level, and:

  o Public Health ethics, oriented towards the population.

Consequently, the decisive methods applied in public health by definition – and thus by nature and in practice – are generally other than those applied in clinical medicine. As it represents a system with interventions bearing also on population health (but with services delivered to the individual), medicine actually may be considered part of public health. Conversely, only fragments of public health may be considered part of medicine. This does not, of course, mean that medical doctors cannot specialise in public health to a degree that enables them to function based on a comprehensive public health point of view – meaning that they will have to study disciplines of decisive importance for population health, which are not themselves founded in medical theory nor directed towards the individual patient, e.g., the disciplines of sociology, economics, organisational theory.

As previously indicated, the road to public health professionalism actually has got at least these two main entrances – public health in its own right but split up in particulars besides the comprehensive discipline (the 'umbrella function') – and public health seen as a medical or health sub-discipline or specialty.

Main work components in Public Health and the derived need

for comprehensive workforce competences to meet challenges

Returning to the definition of public health, the public health workforce must identify population health challenges as well as systems challenges and implement and evaluate relevant interventions. These components are mutually dependent, and, based on rational strategic principles striving to reach set goals will need to have the iterative format of the strategic circle:

1. Situation description and analysis with conclusions on population health and interventional systems;

   ⬇⬆

2. Definition of targets and identification and selection of target groups;

   ⬇⬆

3. Choice of intervention, based on scientific evidence;

   ⬇⬆

4. Resource allocation, implementation and monitoring of intervention;

   ⬇⬆

5. Follow-up of target groups and evaluation/assessment of goal attainment – i.e., repeated:

   ⬇⬆

1. Situation analysis…

   ⬇⬆

   Etc. …

- As also, to some extent, illustrated in 'The Public Health Wheel' (12). None of these basic, strategic components presented above can be omitted, if the rationality of the strategic chain shall remain unbroken and the reaction to population health challenges and systems challenges not be left merely to unsystematic chance. Thus, the public health workforce must possess the competences necessary for completing the activities of the iterative strategic process, which then denotes one of the basic dimensions for the identification of competences needed in the public health workforce and in public health systems as well (13).

Each of the steps of the strategic process corresponds to one or more Essential Public Health Operations (EPHOs (3)), which include:

1. Surveillance of population health and well-being;

2. Monitoring and response to health hazards and emergencies;

3. Health protection including environmental, occupational, food safety and others;

4. Health promotion including action to address social determinants and health inequity;

5. Disease prevention, including early detection of illness;

6. Assuring governance for health and well-being;

7. Assuring a sufficient and competent public health workforce;

8. Assuring sustainable organizational structures and financing;

9. Advocacy, communication and social mobilization for health;

10. Advancing public health research to inform policy and practice.

In order to be able to meet population health and systems challenges and perform the EPHOs, the Public Health workforce and the systems, in which it works, must hold the necessary comprehensive, mutually coherent set of competences, which, in ASPHER's European lists of Public Health core competences (4,5,6) (endorsed by WHO Europe's member states in 2012 as the recommended basis for public health education and training in Europe (3)), are classified:

|	
General	Methods in public health
Population health	Population health and its:
	- social and economic determinants
	- material environmental determinants
Man-made interventions and systems	Health policy, economics, organisational theory, leadership, management
	Health promotion: health education, health protection and disease prevention
	Ethics

Finally, the challenges, which the workforce is expected to be able to meet, may be divided in:

1. Population health challenges and:

2. Intervention systems challenges

- with further subdivision as needed, both in general and in particular, depending on time, place, economy and other important determinants.

In summary, the public health workforce profile must be consistent with the three-dimensional chain:

1. Challenges in:

    a. Population health, and in:

    b. Intervention systems,

2. Actions to be taken to meet these challenges, as indicated by the EPHOs, and:

3. Competences needed in systems and in workforce to perform such actions.

- which again must be interpretable in the strategic perspective. In other words, starting from a given challenge, the relevant actions, expressed in terms of EPHOs, can be determined. Given the planning of EPHOs, the necessary competences profile can be identified. Conversely, given a certain competency profile in a system for public health services delivery, the challenge meeting potential of the system can be identified – and thus the need for completion by adding more competences:

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Challenges

↓↑

EPHO implementation and performance

↓↑

Competences

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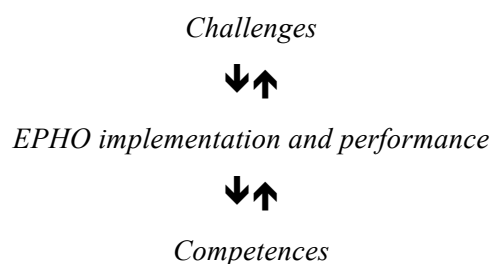
In combination with the strategic circle, this logical structure will represent the basic structure of the EPHRF Repository.

The Public Health Workforce – who are they?

Based on their educational background, the public health workforce potential consists of (7):

1. *Public health professionals* – professionals with sufficient public health competences at bachelor level or a higher level (master, Ph.D.) - whether working in- or outside the health system or in- or outside the public health services:

    a. General public health professionals – persons with a bachelor degree in public health or a master degree in public health, re the Bologna principles;

    b. Graduates with other background making them able to fulfil *comprehensive* public health work. Examples are, medical doctors having specialised in public health/community health and seniors with extensive experience within public health systems and functions but without the formal profile of group 1.a.

2. *Health professionals/staff* with more restricted public health competences and functions in- or outside organised public health services; their main education will basically be a medical or other

health-related programme with limited public health aspects – e.g., individually oriented health promotion, practical screening, health protection.

3. *Other with job functions bearing on the population's health*, in- or outside the health system and in- and outside the public health services; educational background other than for groups 1 and 2. Examples are teachers, policemen, architects.

Public health professionals shall be educated and trained to hold the responsibility for the health of populations, whereas health professionals will have more limited, practical responsibilities as components in public health programmes. Their function will typically be directed towards individual persons, whereas the public health professional will act mainly at the systems level.

WHO Europe recommends that systems for authorisation and licensing of public health professionals shall be developed by member states (3). This also demands that, e.g., national associations/academies of public health and ministries of health support such development, among other things creating, implementing and monitoring training schemes and schemes for continuing professional development (CPD) and by, e.g., agreeing on professional standards for ethical behaviour. As mentioned, this development also constitutes part of the aims of ASPHER's *ShapePH* Programme.

The EPHRF Council and the Online Repository

ASPHER's EPHRF Repository is planned to include documentation of combinations of challenges, EPHOs and competences as applied in strategies, in principle as well as empirical information. Within this context, a council – hereafter termed the EPHRF Council or just the Council – will be established to:

- Ensure the continuing qualitative, conceptual development of ASPHER's lists of competences, both:

  o In their own right as academic entities, corresponding to defined levels of education, training and research in all three categories of the public health workforce:

    ▪ Public Health professionals,

    ▪ Health professionals, and

    ▪ Other workforce with Public Health responsibilities.

  o In the light of their justification in:

    ▪ Establishing the potential for concrete action taken, as indicated by the EPHOs, and thus in:

    ▪ Meeting population health challenges and challenges in intervention systems like, e.g., systems of Public Health services and health systems.

- Ensure the initiation and development of the European Public Health Repository, in terms of:

  o Development of the principles for:

    ▪ The structure of the repository, taking into account:

      - The components of the triad - *(1)* challenges, *(2)* EPHOs and *(3)* core competences – and

      - Their relationship to the strategic circle.

    ▪ Its empirical data structure and concrete empirical data collection, and:

    ▪ Its application in terms of analyses and outputs for:

      - Systems planning, implementation and evaluation, and

      - Individual career planning.

  o Supporting the empirical data collection and inclusion of data in the Repository.

  o Supporting the development and continuing functioning of the Repository's IT basis.

- And, of course:

- Support interaction with the activities of present European health policies and strategies.

- Support raising resources for the Council's work.

In the future, the Council should participate in following-up the implementation of systems and interventions at population level.

As also indicated in, e.g., the UK lists of Public Health competences (14), patterns of competences needed will vary across levels of the decision hierarchy in concrete systems for public health service delivery. As few European countries have got comprehensive public health systems, whereas most have isolated public health services, the council will initially consider the principles of competences allocated to EPHOs and systems of EPHOs as well as relatively general individual competency profiles. The Council's work concerning the Repository's qualitative structure will then transcend the phases:

1. Reviewing the lists of competences *per se*, in terms of need of adjustment of sub-structures and further specification.

2. Creating EPHO-specific lists of competences, i.e., a list for each EPHO.

3. Creating lists of EPHOs – including their competences - by selected population health challenges and systems challenges, and related to the 5 steps of the strategic circle.

In parallel to this, the Council will already at the initial stage consider selected country case studies of patterns of major groups of competences and EPHO-associated competences delivered by schools and programmes of public health education and training as part of ASPHERs *ShapePH* programme, in order that types of within- and between-country imbalances and unmet needs in terms of competences for EPHOs and challenges can be identified and advice can be assessed about homogenisation. This will also be founded on documentation on European countries' systems of delivery of public health services, as planned to be collected by WHO Europe (15). Thus, needs assessment will focus on education and training as well as service delivery. This will all be supported by the development of an IT borne tool.

The information of the Repository will be rooted in an online IT tool, which shall be initially developed during the autumn of 2014. In accordance with the preceding principles, the Repository shall have at least four entrances, namely:

1. Competences,

2. EPHOs,

3. Challenges (population health; systems), and

4. The strategic circle.

Outputs of the Online Repository may be in terms of:

1. Competences needed for a given set of EPHOs or a strategy to meet a given challenge, or:

2. Challenges that can be met and EPHOs that can be carried out based on

Thus, the Repository's outputs will be able to advice:

1. The further development and adjustment of:

    a. Education and training programmes, and:

    b. Systems of Public Health service delivery.

2. The individual choice and adjustment of education and training for career planning.

Some of the potential decision chains have been illustrated in Appendix 1, whereas Appendix 2 illustrates the Repository cell structure and data types.

Conclusion

The added value of the development of the Council and the Repository under the Reference Framework is the continuing adjustment and development of profiles of competences, based on scientific evidence as well as good public health practice, and balancing with EPHOs and with

population health and health systems challenges across Europe. The innovative Repository will constitute a systematic and flexible tool for the planning of cost-effective public health systems and services as well as individual careers, so that target populations, society – represented by systems planners and decision makers – as well as individual public health professionals will benefit.

Acknowledgement

References

1. Foldspang A (Ed.). Provisional Lists of Public Health Core Competences. European Public Health Core Competences Programme (EPHCC) for Public Health Education. Phase 1. ASPHER Series No. 2. Brussels: ASPHER, 2007.
2. Foldspang A (Ed.). Provisional Lists of Public Health Core Competences. European Public Health Core Competences Programme (EPHCC) for Public Health Education. Phase 2. ASPHER Series No. 4. Brussels: ASPHER, 2008.
3. European Action Plan for Strengthening Public Health Capacities and Services. Copenhagen: WHO Europe, 2012.
4. Birt C, Foldspang A. European Core Competences for Public Health Professionals (ECCPHP). ASPHER's European Public Health Core Competences Programme. Brussels: ASPHER, Publication No. 5, 2011.
5. Birt C, Foldspang A. European Core Competences for MPH Education (ECCMPHE). ASPHER's European Public Health Core Competences Programme. Brussels: ASPHER, Publication No. 6, 2011.
6. Birt C, Foldspang A. Philosophy, Process and Vision. ASPHER's European Public Health Core Competences Programme. Brussels: ASPHER, Publication No. 7, 2011.
7. Terms of Reference for the Working Group on Public Health Workforce as Part of the Implementation of the European Action plan. Copenhagen: WHO, 2013.
8. Foldspang A, Otok R. ASPHER's position paper concerning the new European policy for health – Health 2020 (Draft 2), and the European Action Plan for Strengthening Public Health Capacities and Services (17.02.2012). Brussels: ASPHER, 2012.
9. Birt CA, Foldspang A. Public health capacity building – not only the property of the medical profession. Eur J Public health 2009;19:232-5.
10. Bjegovic-Mikanovic V, Czabanowska K, Flahault A, Otok R, Shortell S, Wisbaum W, Laaser U. Addressing needs in the public health workforce in Europe. Copenhagen: WHO, ASPHER and the European Observatory on Health Systems and Policies, 2014.
11. Public Health in England. The report of the Committee of Inquiry into the future development of the Public Health Function. London: Her Majesty's Stationary Office, 1988.
12. Public Health Function Steering Committee. The Public Health Wheel. Washington DC: APHA, ASPH et al., 1994.
13. Birt CA, Foldspang A. The developing role of systems of competences in public health education and practice. Public Health Rev 2011;33:134-47.
14. Public Health Skills and Career Framework. Oxford: Public health Resource Unit, 2008.
15. Personal communication.

Appendix 1: Examples of decision chains based on the Online Repository

1. Systems planning – What is needed to meet population health challenges?

1. Select ➔ Population health challenge

2. Output: Identification of ➔ EPHOs needed to meet challenge

➔ Types and associated human capacity

➔ Organisation

➔ Economy

➔ Management

3. Output: Identification of ➔ Competences needed to perform EPHOs

➔ Types

➔ Human capacity needed to meet challenge

2. Systems planning – What challenges can be met by prevalent human capacity?

1. Identify ➔ Prevalent human capacity:

No. of staff with competency profiles

2. Output: Identification of ➔ EPHOs that can be performed
by prevalent human capacity
with these competences

➔ EPHO types, numbers and amounts

3. Output: Identification of ➔ Population health challenges
that can be met by existing human capacity

3. Individual career planning – Specialist training programmes to prefer
– based on interest in population health challenge – and on job possibilities

1. Select ➔ Population health challenge

2. Output: Identification of ➔ EPHOs needed to meet challenge

➔ Types, numbers and amounts

➔ Organisation

➔ Economy

	➔	Management
3. Output: Identification of	➔	Competences needed to perform EPHOs
		➔ Types
4. Output: answer	➔	➔ Education/training programme
		➔ Job possibilities

4. Individual career planning – Specialist training programmes to prefer – based on interest in EPHOs – and on job possibilities…

1. Select	➔	EPHO(s) of interest
2. Output: Identification of	➔	Competences needed to perform EPHO(s)
		➔ Types
3. Output: answer	➔	➔ Training programme
		➔ Job possibilities

5. Education and training: curriculum planning

1. Select	➔	Population health challenge
2. Output: Identification of	➔	EPHOs needed to meet challenge
3. Output: Identification of	➔	Competences needed to perform EPHOs
4. Conclusion for curriculum	➔	Curriculum structure, content and goals
		- Thematic components
		- Teaching and learning methods
		- Competences to be achieved

Appendix 2: Examples of Repository cell structure and data types

Repository cell structure

Challenges – examples	*EPHOs*	*Competences*
Childhood obesity	EPHO1 – Surveillance	Methods
	EPHO4 – Health Promotion	Methods Health Promotion
	EPHO9 – Advocacy	Health Promotion
Food poisoning	EPHO1 – Surveillance	Methods
	EPHO3 – Health protection	Population health and its material environmental determinants
Public Health systems development	EPHO6 – Governance EPHO7 – PH Workforce EPHO8 – Organizational structure, financing	All: Health policy, economics, organisational theory, leadership, management

Data types

Data types necessary for the production of the Repository, e.g.:

European standard population

European standard public health system

European educational capacities

Career patterns in European countries