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## EVIDENCE BASED PUBLIC HEALTH POLICY AND PRACTICE

# New directions in European public health research: report of a workshop

Aileen Clarke, Mark McCarthy, Carlos Álvarez-Dardet, Selma Sogoric, Peter Groenewegen, Wim Groot, Diana Delnoij

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Public health draws from a range of academic disciplines, social, medical and statistical, and answers questions relevant to improving the health of populations. We have initiated a Europe-wide study, Strengthening Public Health Research in Europe, to assess the development and use of public health research in both public policy and local decision making. The contemporary challenge for public health research is to integrate the capabilities of different academic disciplines to address policies for health. We have considered the development of public health research in five fields: political epidemiology, community health, health services, economics, and evaluation evidence and synthesis. The organisation and funding of research in Europe should be able to support new research fields and issues, to contribute to policy development and public health practice.

The European Commission has supported a study of public health research, Strengthening Public Health Research in Europe, in association with the European Public Health Association.<sup>4</sup> The study aims to identify existing patterns of public health research in Europe, and to assess future directions. In this programme, we held a workshop with participants from countries across Europe to consider the different scientific literatures and perspectives in relation to the increasing links and collaborations between researchers, and the common health problems that affect our populations. Here, we describe and discuss some current perspectives on public health research, and the possibilities for change and evolution in relation to public health practice—to support research into the design, investigation, implementation and evaluation of interventions at the population level designed to improve public health.

### TOWARDS A CONCEPT OF POLITICAL EPIDEMIOLOGY

Public health is undergoing a renaissance in Europe. The European Union is giving increased attention to public health to fulfil its obligations from international treaties to protect the health of all European citizens.<sup>1</sup> National governments are recognising new public health issues, in both the distribution and determinants of diseases, in health-related behaviour, structures and environments, and in the organisation of responses through medical care and public health services. European countries are becoming globally interdependent, through areas of trade, energy, migration and foreign policies, increasingly affecting the determinants of health.

Public health research draws from a number of academic disciplines, including anthropology, history, economics, sociology and political science, as well as epidemiology and statistics.<sup>2</sup> Yet, there continues to be tension between social and medical research disciplines, particularly in conceptualising health as a collectively owned right, in comparison with diseases and illnesses, which are individually measured and treated.<sup>3</sup> There is also a complex interplay between public research, policy and practice. Although policies are drawn from a synthesis of politics, practice and research, research moves on, highlighting new areas for policy and practice. There is a need for strong, valid and reliable public health research to support practice in this changing environment.

The concept of “political epidemiology”<sup>5</sup> as a research field highlights the importance of a definition of health in which policies, although not themselves primarily directed towards health, may yet have substantial health impacts. (It is of note that some European languages do not distinguish policy from politics. In English, the implication of policy is of a broad direction of public action, whereas politics implies more immediate negotiation between individuals or parties.) Political epidemiology, drawing on a history of “social medicine”, does not simply describe the distribution of health determinants and health inequalities in time, place and person. It is interested in how institutions derived from political power can affect health, and worsen or ameliorate inequalities.<sup>6</sup>

Political epidemiology indicates the importance of investigating political processes to understand policies from their very source. It goes upstream rather than simply measuring the impact of policies that have already been formulated. There is a tradition (stretching back to Ibsen’s classic play, *An Enemy of the People*) of political epidemiology, which includes research on the tobacco<sup>7</sup> and food industries<sup>8</sup> and the road lobby.<sup>9</sup> This research has confirmed the conception of economic forces that operate against public health interests. Political epidemiology seeks proactively to construct and frame social and political problems as legitimately within the ambit of public health. An example is domestic violence or intimate partner

See end of article for authors’ affiliations

Correspondence to:  
Dr Aileen Clarke, Public Health Resource Unit, Oxford OX4 2GT, UK; aileen.clarke@phru.nhs.uk

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abuse, which is one such problem where formulations and definitions of the political and social problem have been key.

The methods of political epidemiology include the work conducted previously in developing health impact assessments, which is directly applicable. Ecological studies (defining the actions of institutions as the exposure of interest) are useful.<sup>6</sup> Methods of other disciplines can also be used—for example, from political or strategic sciences such as policy analysis, policy formulation analysis, stakeholder analysis or policy options forecasting. Finally, political epidemiology may take methods from communication sciences.

Epidemiology, policy research and political science together can form a powerful and sophisticated alliance to ensure that research can be used to construct problems and directed to developing solutions with a less paternalistic and a more productive public health outlook to improve health and alleviate disease and suffering.

### **RAPID APPRAISAL TO ASSESS COMMUNITY HEALTH NEEDS: COMMUNITY-BASED QUALITATIVE INVESTIGATION<sup>10</sup>**

Although we are now aware of the existence and distribution of health inequalities, explanations of why these inequalities exist have been slower to materialise. It has been suggested by a number of authors including Gold *et al*<sup>11</sup>, Wilkinson and Pickett<sup>12</sup> and others, that income inequalities themselves have a damaging effect on public health. The explanations for this finding range from a relative lack of reciprocity, to underinvestment in education and healthcare, and to an underinvestment in general in social capital, with low social cohesion and mutual trust.<sup>13</sup> Interestingly, this relationship seems to be more evident in America than in Europe. Alongside this explanation comes the important idea of social or community health as a key determinant of health.<sup>9</sup>

The study of community health recognises that groups have characteristics different from, and over and above, the sum of the individuals in them. Communities may relate to geographical boundaries, or to subsystems such as social groups, or to those joined by business or family ties; at a system level, this includes concepts of mutuality, and shared norms and values. Community-based health research in the US has suggested the value of decision making with communities, joint priority setting and accessing resources. The World Health Organization's Healthy Cities work has contributed to research into the mechanisms of the social determinants of health at a community level. The aims of Healthy Cities include the development of healthy public policy and strengthening community action for health.

In Croatia, for example, the assessment of public health needs was impossible in the mid-1990s using traditional epidemiological methods because of the destruction of the infrastructure of censuses and population enumeration due to war. Rapid appraisal, using systematic identification of participants for qualitative measures, was applied to assess community health needs.<sup>14</sup> The participants' views were triangulated against available indicators and expert views. The method was inexpensive, participatory, sensitive to local need and action oriented. Sustainable achievements included longer-term cooperation between different stakeholders and increasing community participation in the management of resources for health at a local level.

### **HEALTH SERVICES RESEARCH: CONTRIBUTION TO PUBLIC HEALTH<sup>15</sup>**

Public health, as with other academic disciplines, is not without its own internal politics. Whereas "social medicine" recognises

the broader determinants of disease presenting to doctors, advocates of health promotion have emphasised a "social model of health" unrelated to provision of healthcare by professionals. There has even been a tradition of suggesting that health services may be detrimental to health, and ideas that the broader determinants of health are the most important in improving longevity and health, drawing on the arguments of McKeown<sup>16</sup> and Illich.<sup>17</sup> More recently, the contribution that health services make to public health has been revisited and a more balanced view prevails.<sup>18</sup>

Health services research is concerned with need, demand and supply of health services and with the structure, process and outcomes of health services. At a macro level, it is concerned with health systems and health policy, and at the micro level with the organisation and structures of care for individuals. Health services research, perhaps more than other research methods, is applied research: drawing from related disciplines. The problems that health services research deals with are determined by problems in the healthcare field, including ordering and cohesion of the healthcare system, allocation of scarce resources and rationalising the system. Measures of the system are usually taken as measures either of utilisation (eg, the number of occupied bed days per thousand population) or measures of health (eg, subjective health, quality of life or mortality).

Health services research uses both quantitative and qualitative approaches, and often the data sources used are routine data, derived from, for example, administrative payment purposes. Health services research has clear links to relief from illness and disease, and in some conditions to immediate succour and survival. Not least because of the huge expenditures that societies invest in health services, health-services research is an important component of the broader family of public health research.

### **APPLYING A THEORETICAL ECONOMICS TO HEALTH POLICY<sup>19</sup>**

Many policies in healthcare systems, such as financing, competition, regulation, organisation and some health interventions, emanate from and can be addressed from a health economics perspective. Some assumptions frequently applied in economics research include: agents (both individuals and organisations) do what they can to further their goals in responding to incentives; resources are used until optimisation or maximisation; and there is a potential equilibrium when efficiency cannot be increased. However, economics research questions these axioms in the health field, noting, for example, the strong presence of collective rather than individual funding and public-service values, the weakness of ill patients in the role of market "consumers" and the power of providers in driving demand through supply of information and services.

Challenges for health economics research therefore overlap with other disciplines in public health research, including the balance of empirical work (field studies) compared with theoretical research (eg, statistical modelling); how to investigate actual behaviour as opposed to stated behaviour; how to integrate qualitative with quantitative research; how to deal with multiple levels of intervention and effect; and whether to investigate determinants of health as well as health-policy interventions.

Given these constraints, different empirical methods can be used. One illustration is in the "willingness to pay" approach to health and healthcare. Three contrasting methods are possible: (1) the compensating wage differential method, which gives the value of a statistical life-year (between US\$100 000 (£50 561; €77 313) and US\$2 300 000 (£1 162 904;

€1 777 721)); (2) the contingent valuation method, which suggests that the average household is willing to spend 3.9% of its income on healthcare; (3) or a direct utility measurement method, where it is possible to ascertain the cost of a heart disease-free life-year. As each of these methods has different results, it is reasonable to ask: what do stated preferences actually measure?

Application of health-economics principles to health policy is evidently of value, but many questions remain unanswered. Much more methodological and empirical research is needed, in terms of replication of already available research, comparative research between countries and ideally more controlled experiments of policy interventions. In essence, it could be said that whereas useful methods exist, this is a highly under-researched area.

## EVALUATIVE RESEARCH: EVIDENCE AND SYNTHESIS<sup>20</sup>

The need to undertake research on social interventions aimed at improving public health—for example, those aimed at housing, welfare, employment, fiscal, transport, and other policies and interventions—has long been recognised. However, programme evaluation may be seen as expensive, intrusive, awkward or confrontational, difficult to integrate with programmes and it may be difficult to assess relevant outcomes. Politicians (and their officials) are sometimes understandably reluctant to have public scrutiny of the effectiveness and efficiency of their policies.

In this field, there are often multiple studies with heterogeneous methods for delivering an intervention (variably defined) to different populations. With little high-quality primary research, synthesis and appraisal of the research evidence, however systematic, may not reveal conclusive evidence on effectiveness (although it may indicate avenues for further research).<sup>21</sup>

Social interventions at policy level that are of greatest interest to public health are rarely open to randomisation, because the units of randomisation are large (eg, housing developments, social development programmes), in contrast with clinical trials or health-behaviour interventions on individuals. Natural experiments, where the researcher cannot control the interventions but can compare places of different application, can be of value. Often, a retrospective account drawn from partial evidence is the best that can be achieved—and by this time, the policies being proposed by a new set of politicians may be different

Measuring appropriate outcomes is also a problem. Defining the “right” outcomes for a social policy is important. Better health may be a byproduct rather than an intended consequence of a social intervention. For example, the provision of better housing is an aim in itself, not directly a means to improve health. If the potential for health effects can be made more visible to those planning implementations of social policies and social change, evaluations can be undertaken that include the “right” health outcomes.

In summary, if the evaluation of the health outcomes of social policies really is important, then we need to consider further how to set about improving the design of policy research, and harnessing good policy evaluations to develop new policies for health.

## DISCUSSION

The contemporary challenge for public health research is to integrate the capabilities of different academic disciplines to address policies for health. It has to step beyond descriptive studies of ill health, need and health determinants, into the examination of policies that can be enacted, and their impacts.

Our Strengthening Public Health Research in Europe workshop included representatives from a variety of disciplines and European countries, and common messages and issues were highlighted. Researchers can draw on different perspectives of common problems. Important social issues contribute to health—for example, population mobility and migration, the developing public/private mix in health systems, and the health aspects of sustainability and climate change, which require research at the European level. Equally, at the local community level, research needs to address and connect with the health issues of minorities and hard-to-reach populations, understand that different cultures and health beliefs exist, and examine the social role of communities in promoting personal health.

Public health research must have a willingness to adapt methods used for other purposes. Drawing from methods of aetiological epidemiology, public health research must develop multidisciplinary approaches to evaluative interventional epidemiology. Public health research needs to adapt the hierarchy of scientific research methods developed for clinical medical issues to public health practice. Methods and outcome measures selected for public health research should be appropriate to the research question and public health need, without compromising rigour and generalisability.

To match this challenge, the organisation of public health research across Europe needs strengthening. Public health research capacity varies between countries, depending on the traditions of the social as well as the physical sciences, and pressure from the commercial sector, particularly the pharmaceutical industry, has sometimes diverted medical science away from the major public policy issues that need to be addressed. It is important to be able to point to outputs of public health research and to indicate the impact or payback. The range of public health research methods is important, and also the sustainability of research, and there must be population datasets available for comparisons and longitudinal monitoring.

Research funding support is needed from national, international and independent sources, but for public health research, where the interests of the population (and especially the more vulnerable) are the priority, there must be particular care in ensuring that bias from commercial interests is minimised. Public health researchers need to understand and be engaged with political and policy processes, be able to formulate appropriate study designs and be prepared to wait for adequate periods of time to record the related health outcomes. This requires a long-term approach to both the organisation and funding of research.

## CONCLUSION

The question “how best should we undertake public health research in Europe?” deserves regular review. Public health research relates directly to population health through public

### What this paper adds

- This paper considers developments in public health research in five fields: political epidemiology, community health, health services, economics, and evaluation (evidence and synthesis).
- It addresses the contemporary challenge for public health research in integrating different academic disciplines to address health policies.
- It stimulates debate about wider issues of the contribution of research to policy development and public health practice.



## Policy implications

- The new developments and directions in public health research described here need to be considered by, and included in, public health research funding programmes in Europe.
- The aim is to increase understanding of the strengths and weaknesses of current public health research by both researchers and policy makers and to strengthen links between the two.

health practice in health promotion, health services and systems, and through relevant policy areas. Global collaboration, dissemination and knowledge transfer are increasingly important for making the best use of current research knowledge. The challenge is to integrate research across Europe to address policies for health. We have considered the development of public health research in five fields: political epidemiology, community health, health services, economics, and evaluative research (evidence and synthesis). The organisation and funding of research in Europe needs to be able to support new research fields and issues, and to contribute to policy development and public health practice.

However, from this analysis, European public health research is making an active contribution, based on a variety of theories, disciplines and methods, and is adapting and thriving.

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## Authors' affiliations

**Aileen Clarke**, Public Health Resource Unit, Oxford, UK  
**Mark McCarthy**, Department of Epidemiology and Public Health, University College, London, UK  
**Carlos Álvarez-Dardet**, Department of Public Health, University of Alicante, Alicante, Spain  
**Selma Sogoric**, Andrija Stampar School of Public Health, Medical School, University of Zagreb, Zagreb, Croatia  
**Peter Groenewegen**, **Diana Delnoij**, NIVEL, Netherlands Institute for Health Services Research, Utrecht, The Netherlands  
**Wim Groot**, Department of Health Sciences, Maastricht University, Maastricht, The Netherlands

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