**Viewpoint**

**Who supports health research in Europe?**

[Introduction]

‘If you think research is expensive, try disease’, 1 Mary Lasker (USA, 1901–94)

What is public-health research? Health relates to three sets of sciences—‘life’ sciences joining biological and human laboratory research, clinical sciences investigating and treating disease, and public-health sciences achieving disease control through prevention and health services organization. The Global Forum for Health Research takes ‘health’ research to include all areas of biomedical and public-health research, while the Alliance for Health Policy and Systems Research focuses on the planning, management and finance of health services. But these organizations are concerned with global health research, not research in Europe. In this Viewpoint, public-health research in Europe is taken to include health research at organizational and population level—including some medical, social and environmental disciplines, but excluding clinical and laboratory research.2

**SPHERE (Strengthening Public Health Research in Europe), a collaborative study through the European Public Health Association funded by the European Commission’s Sixth Framework Research Programme, showed2 that the level of public-health publications in Europe is below the USA, and that there is insufficient development of social, behavioural and organizational health research particularly in the new member states. There are marked disparities between countries in publication rates, with strongest output in the Scandinavian countries. It is difficult to identify leadership of national-level public-health research, and there is no standard description of funding.3**

[Value]

European national health systems use most of their resources for disease treatment and care, rather than disease control or prevention. Public-health action is often less visible, except in moments of publicity, such as the recent flu panic—and even for flu the ‘big ticket’ has been spending on commercial vaccines and treatments. The public system confirms a priority for treatment over prevention, and the profit-making sector over the not-for-profit. Few health economists work on public-health research.

Health research has become big business; and big business has espoused research. The traditional academic, with privileges of respect and security but fixed and relatively limited wages, has been transformed into research team leader with global collaborators. And sometimes the commercial sector can do it better. Craig Venter beat the combined researchers supported by the National Institutes of Health and the Wellcome Trust to present the first full account of the human genome.4 He raised commercial capital, and gained profit for his company not through patenting the genome itself but through the software needed to explore it.

The USA spent 122 billion USD on health research in 2007.5 Just over half of this (68 billion USD) was commercial—for pharmaceuticals, biotechnology and medical technology. Most of the rest was Federal government funding (around 30 billion USD, 25% of the total, through the National Institutes of Health), along with universities’ own funds and local state funds. Philanthropic foundations spent 1.16 billion USD, 1% of the total, more than the combined public spending (878 million USD, 0.8%) on the Centers for Disease Control and Prevention (funding health promotion and disease prevention research) and the Agency for Healthcare Quality Assurance (funding health services research).

Nobody knows what Europe spends on health research, nor on public-health research alone. We can have a view from the Health theme of the European Seventh Framework Research Programme (table 1), but this excludes health-related spending in other themes of the Programme (e.g. e-health, environment, food and science-in-society), and all commercial, national and philanthropic research. The total of health research spending per annum by the European Commission, at around EUR 0.6 billion, is about one-thirtieth of the USA Federal spend on the National Institutes of Health (depending on exchange rates). And within the Health theme, the third category of ‘Optimising the delivery of health care to European citizens’ received 7% in 2007/8, 12% in 2009 and (excluding research for Africa) less than 5% in 2010.

Of the few estimates of total national health research budgets reported in English, Switzerland stands out.6 From a total of 5.353 billion CHF, equivalent (in 2008) to about EUR 3.7 billion, the report says that ‘the Federal Administration’s expenditure on health research is extremely modest compared with that of the private sector (CHF 28 million compared with CHF 5.1 billion)—that is, 0.5% of the total. The UK spends 1% (EUR 1 billion) of the National Health Service budget spends on research,7 around 80% on clinical infrastructures and studies, and the rest on smaller programmes including health technology assessment. Also, from 2009, up to EUR 10 million a year is allocated to a ‘public health research programme’ for ‘non-NHS interventions intended to improve the health of the public and reduce inequalities in health’. In parallel, the UK Medical Research Council in 2008/9 spent EUR 0.8 billion on basic, clinical and population research together, while gaining income of EUR 70 million from licensing patents. But with no accountability for spend by the private sector, there is no estimate of the total funding for health research in UK.

**Research for profit?**

Medical equipment is developed to diagnose and measure diseases, drugs are created to relieve them (but only partially—there is financial advantage from chronic diseases), doctors prescribe at no cost to themselves and health service insurers and funders pay. The costs of research and marketing are thus passed on in the prices charged to the healthcare system and ultimately the public, both sick and non-sick, as solidarity. The annual profit returns on pharmaceuticals are among the highest of any industry sector.

And is the investment in commercial research all beneficial? Reservations include:8,9,10 that drugs are often
developed (at cost) to compete with others of equivalent effectiveness (often only a statistically marginal benefit: the single day ‘advantage’ of Tamiflu is not unusual); that there is increasing evidence of malfeasance by companies in undertaking and publishing drug trials, promoting clinical ‘guidelines’ for their own products and failing to provide evidence from practice in treatment with high-cost drugs for rare diseases paid for by health services; and that drugs are rarely directly compared with other non-pharmacological approaches.

Why is the for-profit model the normal paradigm of the health research sector? Preventive measures which can benefit wide proportions of the population are also developed through research. But there are no patents and therefore no profits for the manufacturers, and no system of product marketing or promotion. Moreover, the pharmaceutical companies have significant power as a commercial sector of the economy, and can put pressure on governments to pay for expensive drugs in sensitive fields such as rare diseases and cancer.

But if industry is the natural partner of for-profit health research, who/what is the natural partner for not-for-profit research? As with patient involvement in clinical research, perhaps civil society organizations can contribute. The strength of civil society organizations differs across Europe. Traditionally, in northern European countries, the public sector is the main provider of social services, while in southern countries the Church and trade-union mutual organizations have played important welfare roles. In the new member states there were few CSOs before the 1990s, but there has been major growth in public health fields including women’s health, HIV prevention and drug control.

### European markets for health research

Markets are best where there are sufficient numbers of players and transparency of information. What trade is possible in health research? The Head of Research and Development (for England) at the UK Department of Health, Sally Davies, argued for her budget with the Treasury by calling it ‘market-failure research’. But perhaps more correctly she should say ‘public-good research’, because there are indeed (non-profit) markets for public-health research. Most European countries now fund research through peer-review boards, and the European Framework Programme calls are mainly competitive. The European Commission proposes research as the fifth cross-border freedom within the Community (along with freedom of capital, workers, goods and services), and EU member states are encouraged to share their funds as ‘ERA-NETS’. Yet for health research, this fragile market is poorly funded when compared with the USA and dominated by biotechnical and clinical research.

In SPHERE, we gained responses on public-health research structures from ministries of health and education in 25 of 28 European Economic Area countries. All but four countries reported the ministry of education or science responsible for biomedical research and the ministry of health responsible for public-health research. Most ministries were able to identify thematic areas (from three to thirty), based on policy documents, health plans or public-health plans to define research priorities. External organizations were to an extent involved in identifying priorities, but Ministries and their agencies led on decisions for financial support. The funds actually available for public health were not identifiable. Yet ministries made suggestions for strengthening public-health research through initiatives between their own countries and the European Union: as well as more resources, improving European coordination was most frequently proposed.

There is no common approach for public-health research across Europe, significant gaps in information on organization and funding and a need to sharing on programmes and priority setting at regional, national and European levels. The challenge is for not-for-profit research funding organizations—ministries, health insurers, charities and institutes—to see the incentive of collaboration for collective benefits.

A new study, STEPS (Strengthening Engagement in Public Health Research), has started with EUPHA. It is funded from the ‘Science in Society’ section of the EU Seventh Framework Research Programme and covers the perspectives of both the national public health association EUPHA members and also national civil society organizations. The growing interest in the contribution to research of CSOs parallels the increasing inclusion of patients in clinical research. STEPS will be holding multi-stakeholder workshops on public-health research in the 12 new member states during the first half of 2010, and bring the findings to the EUPHA annual conference in Amsterdam in November 2010. We hope members of EUPHA will wish to contribute.

### Acknowledgements

This author acknowledges financial support from the European Commission Directorate for Research Seventh Framework Programme (FP7-Science-in-Society-2007-1). The views expressed here are independent.

### References


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doi:10.1093/eurpub/ckp222