VIEWS FROM THE IEA COUNCIL

Public health and epidemiological research: a blind spot among the European Union priorities?

Rodolfo Saracci

The Sixth Framework Programme of research

The first projects supported by the European Union (EU) Sixth Framework Programme (FP6) of research are about to start while calls for applications are still open. FP6 is placed within the ‘Research’ Directorate of the European Commission (the propositional and executive organ of the EU) and formally covers the quinquennium 2002–2006, with actual project implementation in the years 2004–2006. The programme has available funds of 17.5 billion Euros, a 17% nominal increase in respect to the previous quinquennial programme (FP5), equivalent to a 1.5–2% annual rate of increase in real terms. This level of funding represents roughly 5% of the public spending in non-military research by the 15 EU countries, and approximately the same percentage holds within the segment of life sciences and health research. This would be far from negligible if it was selectively targeted on collaborative projects to boost genuinely innovative research, to study specific European phenomena (ranging from geological to historical and social), and to improve research competence where defective.

Two of the seven major priority themes (Table) of the FP6, and some minor topics within the other themes, are devoted to the life sciences: ‘Genomics and biotechnologies for health’, allocated 2.25 billion Euros, almost 13% of the total, and ‘Food quality and safety’, granted 685 million Euros, nearly 4% of the total. Most funds are intended to support ‘integrated projects’ and ‘networks of excellence’, both forms of activities being designed to foster extensive collaborations within broad and complex projects receiving funds of the order of 5, 10, or 20 million Euros over 3–5 years. This contrasts sharply with previous EU Framework Programmes where the typical funding in the life sciences areas has been of the order of 0.5 to (uncommonly) 1.5 million Euros provided mostly to catalyse collaboration and networking on specific and focussed topics. While shifting priority from catalytic to substantive funding is a positive development, the wisdom of concentrating resources on mega-projects, cumbersome and potentially rigid, has been questioned in some quarters. It has also been argued that the whole FP6 is dominated by ‘overt socioeconomic objectives’, a feature discouraging the participation of first-rate basic scientists.

Population-based health research: a hardly visible priority

It is, however, striking that the ‘overt socioeconomic objectives’ are, at least in the life sciences area, almost exclusively those of potential industrial interest. The paramount example of low emphasis on other social and economic objectives is public health research, broadly defined to include: (1) population-based epidemiological research on disease determinants from genetic to nutritional, occupational, environmental, and social as well as evaluating efficacy and effectiveness of preventive measures, and (2) research on the working—including the economic dimension—of health services at all levels, from prevention to primary care to specialized clinical activities. These topics form a minor part of the life sciences themes and when present they appear as subsidiary features of programmes whose formulation reflect biological, pathophysiological, pharmacological, or technological viewpoints, not primarily a population and public health perspective. For instance the presentation of the ‘Genomics and biotechnologies for health’ objectives reads:

To help Europe exploit, by means of an integrated research effort, breakthroughs achieved in decoding the genomes of

Table The Sixth Framework Programme

<table>
<thead>
<tr>
<th>Budget chapters</th>
<th>Euros (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority themes:</td>
<td></td>
</tr>
<tr>
<td>1. Genomics and biotechnologies</td>
<td>2255</td>
</tr>
<tr>
<td>2. Information society technology</td>
<td>3625</td>
</tr>
<tr>
<td>3. Nanotechnologies, intelligent materials, and new processes</td>
<td>1300</td>
</tr>
<tr>
<td>4. Aeronautics and space</td>
<td>1075</td>
</tr>
<tr>
<td>5. Food quality and safety</td>
<td>685</td>
</tr>
<tr>
<td>6. Sustainable development, global change and ecosystems</td>
<td>2120</td>
</tr>
<tr>
<td>7. Citizens and governance in a knowledge based society</td>
<td>225</td>
</tr>
<tr>
<td>Other research activities</td>
<td>2060</td>
</tr>
<tr>
<td>European Research Area</td>
<td>2925</td>
</tr>
<tr>
<td>Specific programme: nuclear energy</td>
<td>1230</td>
</tr>
<tr>
<td>Total</td>
<td>17,500</td>
</tr>
</tbody>
</table>
living organisms, more particularly for the benefit of public health and to increase the competitiveness of the European biotechnology industry. This research could also have an impact in fields such as the environment and agriculture.

To bring basic knowledge through to the application stage (new diagnostic tools and treatments to help combat diseases which are still not under control, and representing major potential markets).

To combat, particularly in the clinical field, cancer, children’s diseases, diseases associated with ageing, and communicable diseases linked to poverty.

Such theme structuring does not obviously exclude epidemiological and public health components which may find some room within fundable projects, but non-exclusion is just the opposite of high priority.

In principle this remarkable deficit of FP6 could be compensated by the Public Health Programme, placed under the ‘Health and Consumer Protection’ Directorate of the European Commission. However, this programme has been oriented to public health actions rather than to research and covers three areas: information and knowledge for health, rapid responses to health threats, health determinants, plus an area of overlap common to the other three. The workplan for 2003 lists almost 100 ‘priority themes’, the word ‘research’ not being mentioned even when some actual research seems inevitable, for instance in the development of health and disease indicators. With funds of only 50 million Euros per year, 15 participating countries (plus 10 countries which will join the EU in 2004) and research in an ancillary role, this programme may only marginally mitigate the public health and epidemiological research deficit of the FP6.

Overall the current situation represents a net regression in respect to the preceding five Framework Programmes, each of which provided specific room for research in epidemiology and public health. The FP6 seems affected by a blind spot obscuring the fundamental fact that before delivering ‘health’ for European citizens, ‘genomics and biotechnological’ discoveries and inventions require extensive research at a population level, only weak traces of which are present in the programme. This is incongruous as Europe, with its variety of lifestyles, nutritional habits, genetic endowments, environmental and social conditions, offers an ideal setting for studies of competitive international quality that integrate the strengths of epidemiological and laboratory approaches. A related perverse effect of this omission is the bending or distortion of epidemiological lines of research to force them into projects of a different nature that may offer, particularly for investigators from countries already underfunding such research, the only opportunity for major support. For instance, I have noted a pervasive conversion of epidemiological investigations on exogenous factors of aetiological interest (be they environmental pollutants, foods and nutrients, or viruses) into projects centred on gene–environment interactions, however hard to measure and probably of secondary public health relevance, but close to the FP6 priority topics in genomics. A few projects do not bear the sign of a conversion: original themes like the instrumental use of genetic information (via ‘Mendelian randomization’) to control for confounding in the study of environmental agents with weak effects would be one area.

Other signs point to the existence of a blind spot. No research policy indications have been given to harvest the results of previous major research investments in epidemiology by the EU: a prominent example is EPIC, the European Prospective Study into Cancer and Nutrition—and more generally health—whose combined EU and national investments to recruit half a million subjects in 10 European countries, establishing the largest epidemiological biobank in the world, has been estimated at over 50 million Euros (Riboli E, personal communication, 2003).

Even more grave, no research policy orientation has been given on the vital issue of performance of European health systems, namely health services and other key societal features influencing health. For all their limitations Western European health systems as a group have been among the best performers in the world, much better than the US system: they need continuous changes in response to technological advances, ageing populations, and people’s increasing expectations about health. Only specifically targeted research exploiting the European inter-country variation in health systems, to which FP6 has turned a blind eye, will permit rational adaptations to preserve and improve their effectiveness, efficiency, and egalitarian character.

Back to population-based health research

The relative neglect of population-based and population-targeted health research is just one result of two factors handicapping European research policy in general: the deficit of scientific governance and the dominant economic orientation of EU politics.

Although scientists and scientific bodies are extensively consulted and programme committees set up with advisory and ‘assistance’ functions, the actual responsibility for preparing the draft research programme rests with the techno-administrative staff of the Commission Research Directorate and its Commissioner: until today there has not been an EU organ composed of active high level scientists from a wide spectrum of disciplines primarily in charge and accountable for the programme. Before reaching its final form the draft then undergoes successive content revisions, mostly shaped by national and political concerns (including lobby pressures), within the very complex procedure of ‘co-decision’, involving the Commission, the Council of National Research Ministers and the European Parliament. The outcome of such a convoluted process may or may not make scientific or public health sense: for example major environmental and occupational risks have not been retained as priorities in the FP6 but ‘Environmental health risks’ are found under the ‘Food quality and safety’ hat, specified in topics such as multiple interactions between genes, nutrients, and xenobiotics in carcinogenesis.

The second handicapping factor directly derives from the history of the EU, built on the communality of economic interests of the nations while setting aside diverging political views. The success of this economy-centred process to bring peacefully together countries separated by secular and bloody antagonisms has its counterpart in politics becoming dominated by an economic orthodoxy that has lead to a EU ‘model of liberalism taken literally’, sharply and increasingly criticized for its rigidity even by mainstream economists. On this neoliberal background the FP6 has been launched to increase....

PUBLICATIONS

PUBLIC HEALTH AND EPIDEMIOLOGY RESEARCH

241
European research ‘competitiveness’, essentially seen in an industrial and economic perspective, in respect to the US, Japan, and China. Thus the programme grants priority to research capable of leading to biotechnological products by European industries competitive in international free markets while it gives low priority to epidemiological and public health research capable of strengthening social performance, as measurable by the population health of a country or an association of countries in comparison and competition with other countries. Remarkably this EU policy is at variance with that of the US—often quoted as the example to follow—where Federal funds provide substantial support to research, basic or of social nature, not oriented towards industrial developments.

FP6 has the positive feature of allowing a degree of adjustment in successive calls for applications: some shift towards epidemiological research is present in the more recent calls within the ‘Food quality and safety’ theme\(^1\) and in the just opened, for the time being minor, stream of targeted projects in support of European policies. In the Public Health Programme domain the momentum generated in 2003 for the control of the severe acute respiratory syndrome (SARS) should hopefully not only be extended towards a permanent surveillance system of emerging diseases but be upgraded towards the establishment of a European Centre for Disease Control\(^1\)\(^5\) with at least some research functions. Two more fundamental actions should also rapidly start:

1. as recommended in the recent report (‘Sapir report’)\(^6\) of the independent study group established by the President of the European Commission a European Agency for Science and Research (EASR) should be created, along the lines of the British or the Nordic Research Councils, primarily as a funding rather than simply an advisory body covering all fields of research, accountable to its funders but autonomous in its operations and run by highly respected scientists. The increasing research resources available at EU level makes it essential that a science-based structure replaces the present mechanisms of research policy setting, disproportionately weighted by administrative and political elements and increasingly inadequate to provide programming consistent in time both with stated objectives, like people’s health, and the internal dynamics of basic and applied research;

2. to make public health and epidemiological research a major priority in future EU programmes a vicious circle must be broken. This links weak and inconstant political initiatives by epidemiologists and public health researchers at a political level with funding decisions to limit resources for such research: this in turn generates lesser results from research, leading to further reduced power of political initiatives. I wish that societies such as the European Epidemiology Federation of the International Epidemiological Association and the European Public Health Association would take the lead in this pressing endeavour.

References


