

Epidemiology and Health for All

The Role of Epidemiology in a Health Policy

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Urho Kekkonen, the late President of Finland, used to say that in world politics, a small country cannot play the role of both the doctor and the judge. It cannot both identify a problem, propose the treatment and tell who is to blame. What about epidemiology, a small discipline, can it play these roles in health policy? Having launched the most ambitious health policy ever, Health for All, the World Health Organization should know. This paper tries to answer the question. It first reviews the role of epidemiology in the work of the Organization, then describes the contributions of epidemiology to Health for All and finishes by looking at possibilities for cooperation between WHO and the epidemiological research community.

WHO: A patron and a client of epidemiology

WHO is both a patron and a client of epidemiology. Having a constitutional responsibility for the global epidemiological surveillance of disease, it has many epidemiological activities of its own. The world epidemiological community knows and uses the outputs: Weekly epidemiological record; International Health Regulations; World Health Statistics Quarterly; World Health Statistics Annual and World Health Situation. The International Classification of Diseases is almost a *sine qua non* for most epidemiologists.

Besides producing epidemiological information for the use by others, WHO needs epidemiological intelligence produced by others. The type of information the Organization has used reflects the development of WHO's work. The Member States founded WHO to rebuild their health care systems ruined by the Second World War. After the industrialized countries quickly got back to their feet, the Organization turned its attention to the developing countries. It started from public health, capping in campaigns against the great scourges of the humanity, moved to the development of health care infrastructure and is now initiating health policy.

The campaigns were WHO's hallmark for the two first decades. They drew on what was known of the epidemiology of communicable diseases. The

first campaign against yaws seemed to vindicate this approach. The method was simple, the results dramatic, and the politicians liked it. The next mouthfuls – tuberculosis and malaria – were much harder to swallow. Although using the help of top epidemiologists, the campaigns were only partial successes. At best, the tuberculosis campaign reached only half the most vulnerable population groups. The malaria plasmodium proved more cunning than the epidemiologists who had set out to get rid of it. After initial successes, the World Health Assembly had to admit in 1970 the defeat and give up the goal of eradicating malaria. This setback did not deter the Organization from trying again, this time against smallpox. Fortunately for the Organization and the humanity, the enemy proved vulnerable. Biologists and epidemiologists found cracks in its armor that made a successful campaign possible. WHO registered the last case of smallpox in Somalia October 26 in 1977.

The main weakness of the campaigns was their isolation from the rest of the health care system of the country. They often relied on foreign experts, including epidemiologists, and local workers trained solely for the campaign. Once the active campaign was over, the team left without leaving a lasting infrastructure.

The campaigns overshadowed a decision made by the World Health Assembly already in 1951 to make strengthening of the health care systems of the Member States WHO's main goal. This work did not really begin until in mid-1960s. For it, WHO needed new scientific intelligence. The campaigns having tarnished the halo of the public health epidemiologist as WHO's scientific advisors, the Organization sought help from health services research. The idea of basic health services emerged: the hub of health care was a hospital surrounded by a few health centres and smaller health stations.

During the 1970s, health services researchers both within WHO and in the Member States began to study what the Member States had done when developing basic health services. The majority was economists and social scientists but they often used epidemiological methods. Also epidemiologists with an interest in the "epidemiology of the use of health services" participated. This work helped to

develop primary health care, codified in the Alma-Ata Declaration. Primary health care is the corner stone on which WHO built the Health for All by the Year 2000 policy.

Health for All – a slogan or a vision?

In 1977, the World Health Assembly approved a bold goal: Health for All by the year 2000 (HFA) (1). In spite – or perhaps because of – its boldness, the goal has been chided. The critics have voiced three questions:

- Why *health*: Why not food, housing, work or peace? What makes health so special that it needs a worldwide programme?
- Why *health for all*: Isn't the goal ridiculous? Will there not always be biological aberrations? Will there not always be people who, through their behaviour, risk life and limb, who smoke, overeat or indulge in car racing or hang gliding?
- Why *health for all by the year 2000*: Even if the goal were biologically possible, is it technologically possible? Will the political will, the resources and the know-how be there? Even if they were, is there enough time before the year 2000 to do what is needed?

The first question belongs to the realm of value philosophy where there are no clear answers. One thing, though, is clear: if there is an organization that has the right to wave the flag of health it is WHO.

The second question stems from a misunderstanding. When approving the Health for All resolution, the World Health Assembly did not think for a moment that the world would be free of disease in the year 2000. The resolution does not call for the getting rid of all diseases but for a state of health that permits a socially and economically productive life. Even a sick or disabled person can lead such a life.

The year 2000 is in no way magic. It is a round figure, easy to remember. In 1977 it was far enough to allow us to do something to reach the goal but close enough to compel us to do this something fast.

What is Health for All then? Two other policy goals help to illustrate its role:

- liberté, égalité, fraternité and
- Proletarier aller Welt, vereinigt euch.

Nobody can claim that these goals have been achieved. Yet, they have had a great impact on the world's events. WHO could be very proud if, in the year 2000 and beyond, Health for All will have had a similar impact in health care.

Do epidemiology and epidemiologist play any role in this vision? As usual, doubting Thomases abound. Some, often epidemiologist, say that policy goals are utopias that reflect more the visions

of their founding fathers than scientific evidence. Others, often health politicians, welcome scientific facts but lament that the researchers do not have information relevant for political decision making. What they have, they cannot always present in a way that the politicians understand.

Facts rebut both notions. The Lalonde report in Canada² and the Surgeon General's report on Healthy people in the United States³ show that the politicians can base their goals on scientific proof and that the scientists have relevant information. WHO believes that Health for All is a similar policy. While it is a political rallying point that helps to mobilize resources for health, it also points to action. It calls for the improvement of everybody's health to the extent possible and for the levelling of inequities in health status. Epidemiology can support the achievement of these goals by:

- assessing the base line situation and locating inequities;
- establishing realistic goals for the improvement; and
- monitoring and evaluating the achievements.

HFA targets have an epidemiological foundation

Contrary to the views of many skeptics, HFA is not fable but based on sound evidence. The HFA policy, for the first time in history, applies an epidemiological framework in international health policy.

The development of HFA in the European Region of WHO shows what the epidemiologists can do. While welcoming the HFA resolution, WHO's European Member States asked the Regional Office for Europe to turn the lofty goal into an action plan. The first step was the Regional Strategy for Health All⁴. It identified five areas needing improvement: lifestyles conducive to health; reduction of avoidable health risks and problems; environment; health care system; and support measures such as education, information and research. The Member States felt the strategy to be a step in the right direction but wanted something more concrete. The Regional Office responded to the challenge in two stages: first, it tried to find problems for which targets could be set; second, it tried to find out evidence for setting the target at a given level.

The work started with a review of epidemiological literature to identify the main problems in the five areas. Lots of health statistics and articles in scientific journals were studied. Particularly useful in lifestyles, avoidable risks and environment, the review resulted in a long list of problems.

The next step was to look at trends in, and differences between, countries. A good situation or clear downward trend in a country was tentati-

vely interpreted as a goal that also other countries could reach. The cancer epidemiologists use the same method to estimate the amount of preventable cancers: prevailing incidence minus the lowest recorded incidence. Before the adoption of the target, the Office tried to check that the difference did not result from factors beyond the control of the health care system (e.g., heredity).

The first step produced some 500 potential targets. The second step cut their number to about one hundred. This was still too many for a policy document. The Regional Office further cut their number by using such criteria as social, economic and political significance. The result was the 38 European Regional Targets for Health for All⁵, approved by the Regional Committee in 1984. Many epidemiologists know them well. The best targets are quantified descriptions of a desired state of affairs at a given time in the future (e.g., reduction of maternal mortality to less than 15 per 100 000 live births by the year 2000). Some targets, particularly those related to the health care system and support measures, are qualitative (e.g., before 1990, Member States should have health information systems capable of supporting their national strategies for Health for All).

Without evaluation, the targets are meaningless

HFA is a social contract that the Member States have made with WHO to improve the health of their people. Although WHO lacks means to reinforce the setting in motion of a HFA policy once it has been approved, the Member States have accepted their ethical duty to carry it out. The Member States have pledged to monitor and evaluate their achievement every three years.

The evaluation needs indicators, i.e., variables that measure the movement towards – or away from – a target. Epidemiology played a key role in finding them. The Regional Office combed through masses of literature and had consultations with epidemiologists to find for each target one or more indicators. For the first evaluation in 1985, the Regional Office proposed some 80 essential and some 40 supplementary indicators.

While setting a baseline against which the future progress can be measured, the first evaluation revealed many weaknesses. Some indicators had little to do with the target they purported to measure. The data were not always comparable because of different definitions (e.g., a hospital bed can mean very different things), different reporting periods and sampling methods. The qualitative indicators were difficult to use and interpret. The indicators did not cover all the areas covered by the targets (e.g., many behavioural risks, perceived health and disabilities). The data pertained to the national level while the interesting things

often happen at the subnational level. For the 1988 and 1991 evaluation, the Regional Office tried to solve the problems and simplify the process. Some indicators were made clearer and others dropped.

In spite of its limitations, the HFA evaluation is the best source of comparative data on health situation and health care systems in 31 European countries. WHO publishes them as two sets of data: a European summary evaluation⁶ and a country by country evaluation⁷.

Health of Europe

The Regional Office has just completed the 1991 evaluation with the help of many epidemiologists who took part in the analysis and write-up of the results. What does it tell of Europe's health? I will just give the highlights. First, the situation is unstable. Henry III had his winter of discontent. Europe seems headed towards a decade of discontinuation. Many factors potentially influence health. While they are not necessarily negative, they render predictions unreliable.

Peace

- while the political climate has dramatically changed to the better, no "peace dividend" benefiting health is yet apparent.

Demography

- fertility rates are dropping;
- the Europeans are getting older;
- internal movements within Europe will increase;
- migration to the Region from the outside will increase.

Socio-economic situation

- the economy has continued to grow but the pace may slow down;
- economic inequities have increased;
- migrants, minorities and other "have-nots" have and pose special health risks and are underusers of services;
- the economic burden on active population is increasing;
- unemployment will remain high and can have long-term health consequences in terms of self-destructive behaviour, mental health and stress;
- changes in political systems and values tend to shift priorities away from health.

Second, while the results shows that health in Europe has improved during the 1980s, they don't justify complacency. We need efforts on all fronts,

even on those targets where the progress has been best. They include:

- eradication of specific infectious diseases (e.g., rubella, measles and neonatal tetanus);
- increasing life expectancy;
- control of maternal mortality (35% of maternal deaths result from abortion showing a need for family planning);
- health policy development (well over half the European Member States have a national HFA policy).

The *speed* of improvement as compared to the first evaluation seems to have picked up concerning: maternal mortality; mortality from cardiovascular diseases; mortality from accidents; suicides; and water supplies and sanitation. The spread of HFA ideas and policy may have been the most impressive success story.

No progress, or even deterioration, has occurred in the following areas:

- equity in health (improving the health of the disadvantaged may be the fastest way to improve the over-all situation);
- mortality from cancer (particularly lung cancer);
- food contamination;
- provision of health services according to needs;
- provision of information to personnel in other sectors; and
- appropriate use of health technologies.

Perhaps the most saddening "failure story" is the widening gap between East and West.

Look at the future

Sir Francis Bacon knew already 400 years ago that knowledge is power. WHO's Regional Committee, WHO's regional "parliament", has approved a resolution that requests that the Regional Office becomes a European Health Information Center (EHIC). The Regional Office sees the HFA evaluation and the EHIC as two sides of the same coin. The evaluation produces data that make the Regional Office a worthwhile source of information; the development of the EHIC will help WHO to carry out the evaluation in a more effective way. Let me therefore briefly review some major developments and plans foreseen.

Data collection: The Regional Office is continuously improving the HFA data base (a computerized data base on some 200 mortality and morbidity indicators) by adding new indicators, improving quality control of the data and lengthening the time series. The Regional Committee has discussed the idea of a European Health Interview Survey. By using few well tested indicators, the survey would cover gaps in WHO's current data, most notably on health behaviour, disability and

perceived health. The Office has charted questionnaires used in such surveys.

The Regional Office has made an inventory of its data bases, entitled Information on Health: Data bases in EURO⁸. The Regional Office is working on an extension of this inventory. It will cover major health related data bases in Europe.

Country information: The events in the countries of Central and Eastern Europe have shown the importance of information on the health care system and health economics of the Member States and WHO's relative weakness in this area. The Regional Office is producing country profiles for each Member State. Because of the amount of data in the profile, it will interest primarily national health authorities, EURO and other international agencies. But many other groups are interested in health information as well. For them, the Regional Office will produce a "popular" version of the profile entitled Country Highlights.

The Regional Office hopes that the Member States will make more use of the data they collect for the HFA evaluation. The proposed model for a National Health Report should be a helpful tool.

Distribution of data: WHO has many Documentation Centres in the Member States. The Office will increase their number. Eventually, WHO hopes to have one in each Member State. The Office has opened electronic communication links to national health administrations, national institutions and collaborating centres. The Office is the main contractor in a European Community project on the development of telematics network under the European Nervous System programme.

The contribution of epidemiology to health for all

Maybe President Kekkonen was wrong, after all. The development of Health of All shows that, at least in the scientific arena, it is possible for a small discipline to act as a judge and a doctor. The epidemiologists have admirably performed these roles by:

- warning WHO of emerging health problems;
- showing ways how to tackle them;
- monitoring the developments;
- evaluating the achievements; and
- proposing modifications for the chosen health policy.

Summary

World Health Organization's goal Health for All is the starting point for a most ambitious health policy ever. The paper analyzes the role of epidemiology in the Organization's work, particu-

larly in the Health for All development. During WHO's early years, epidemiology helped to design and carry out major public health campaigns against such scourges of the humanity as yaws, tuberculosis, malaria and small pox. When the Organization during the 1960s began to emphasize the need to develop the infrastructure of health care, health services research partly replaced epidemiology as WHO's main scientific ally. After the Health for All policy was launched in 1987, epidemiology has again played a major role in establishing the scientific background of the policy. The European experiences show how the epidemiologists can help WHO to identify the most important health problems and set achievable and measurable targets for them. The paper concludes that epidemiology serves to identify problems, show ways to solve them, monitor the changes in the situation and evaluate the achievements.

Résumé

Epidémiologie et «Santé pour tous»: le rôle de l'épidémiologie dans la politique sanitaire

Pour l'OMS (Organisation mondiale de la santé), le programme «Santé pour tous» doit être le point de départ d'une action de santé sans précédent. Cet article analyse le rôle de l'épidémiologie à l'OMS, en particulier dans le cadre de ce programme. Au début de l'existence de l'OMS l'épidémiologie a permis de planifier et de conduire les grandes campagnes contre des maladies telles que la tuberculose, la malaria et la variole. Dans les années 60, l'OMS a insisté sur le développement de l'infrastructure des soins, la recherche sur les services de santé remplaçant en partie le rôle conducteur de l'épidémiologie. Avec le lancement du programme «Santé pour tous» en 1987, l'épidémiologie joue à nouveau un rôle central pour fonder le programme scientifique de l'OMS. L'expérience européenne montre de quelle façon les épidémiologistes peuvent aider l'OMS pour identifier les problèmes les plus importants et établir des buts raisonnables et mesurables. L'article montre comment l'épidémiologie sert à identifier les problèmes, établir des façons de les résoudre et évaluer l'impact de ces programmes.

Zusammenfassung

Epidemiologie und Gesundheit für alle. Die Rolle der Epidemiologie in der Gesundheitspolitik

Das Ziel der Weltgesundheitsorganisation „Gesundheit für alle“ ist Ausgangspunkt für die ehr-

geizigste Gesundheitspolitik, die je definiert wurde. Der vorliegende Artikel analysiert die Rolle der Epidemiologie in der Arbeit der Organisation, insbesondere bei der Entwicklung von „Gesundheit für alle“. Während der frühen Jahre der WHO half die Epidemiologie bei der Planung und Ausführung der grossen Gesundheitskampagnen gegen Geisseln der Menschheit wie Frambösie, Tuberkulose, Malaria und Pocken. In den 60er Jahren begann die WHO, die Wichtigkeit der Entwicklung von Infrastrukturen für die Gesundheitsversorgung zu betonen, Gesundheitswesensforschung ersetzte in der Folge teilweise Epidemiologie als wichtigsten wissenschaftlichen Bereich der WHO. Seit 1987 aber „Gesundheit für alle“ in Angriff genommen wurde, spielt die Epidemiologie wieder eine wichtige Rolle in der Erarbeitung des wissenschaftlichen Hintergrundes dieser Politik. Die europäische Erfahrung zeigt, wie Epidemiologen der WHO helfen können, die wichtigsten Gesundheitsprobleme zu erkennen und erreichbare und messbare Ziele für sie zu setzen. Der vorliegende Artikel schliesst, dass die Epidemiologie dazu dient, Gesundheitsprobleme zu identifizieren, Wege aufzuzeigen, wie sie zu lösen sind, Änderungen der Situation zu überwachen und die Erfolge zu evaluieren.

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