

Using Routine Health Information Systems in Europe

“Focus on Countries in Transition”

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Abstract

International, national, and subnational indicators derived from routine health information systems will be used to demonstrate that comparative information is an essential component in the drive to improve the health of people and the delivery of health care to patients. It is needed at all levels of health services, for a variety of purposes and for many "end users." The overall objectives are to pinpoint areas for public health action and share and tap success (and failures) to initiate "practice-oriented exchange of experience."

Today there is increasing decentralization in Europe, there are countries whose economies and health systems are in transition, and many countries are undertaking health care reforms. These trends give even greater emphasis and urgency to such sharing of "good practices" and, therefore, to the crucial role of sharing comparative health information. The presentation also explores some of the problems and barriers to such sharing and suggests some tried and tested solutions.

Introduction

Sound and relevant information—feedback —enables comparisons among peers and is an essential basis for knowledge and considered action. This simple statement is especially significant in the field of health, as there are no absolute standards of health outcomes against which actions can be judged. Even benchmarks or guidelines are best deduced through comparisons. The advantages of comparative information at all levels of the health service are rapidly creating an impetus for sharing relevant information to add to the pool of knowledge for improved action, be it for health policy formulation, planning, management, or monitoring and evaluation. Rapid advances in computer and telematics technology can now facilitate ready and quick access to and use of such comparative information, much of it derived from routine health statistics.

Unfortunately, routine health information systems generally do not meet these needs. This is because, historically and traditionally, these systems have tended to serve central levels, mainly for control, rather than other organizational levels for policy-making, planning, management, accountability, and the efficient administration of health services. Furthermore, voluminous statistical yearbooks with aggregated data are the only way of presenting available information in many countries. These are neither flexible, nor user friendly, and are of very limited use since they do not allow end users to tap the power of comparison—an essential prerequisite in health. Therefore, it is not unusual for large amounts of data to be collected but not used adequately or completely. This can be the case not only at national level, but also at local level, where the data are actually collected.

The above has been true for many European countries and probably elsewhere as well. It is also the case for the countries of Central and Eastern Europe (CCEE) and the Newly Independent States (NIS), whose health care systems and their corresponding statistical reporting were highly centralized, practically without any feedback of data to the local level. This situation has also led to a lack of practice and skills among health managers to make full and proper use of available information to support policy-making and health service management at all levels of the health service. This problem becomes particularly important when moving toward decentralization, a key element of health reform in CCEE and NIS.

A Solution

The above situation can also lead to the belief that the required data are just not available or that they are not reliable. This is partially and independently true, but the real breakthrough will not come from collecting even more data or from restricting use of available data until their reliability and quality improves. The solution lies in making existing data more accessible and easy to use so that end users can harness the power of comparison. Experience has shown that greater use of existing data is a very powerful stimulus to improve reliability, quality, and timeliness. At the same time, increased and widespread use of existing data also gives a greater impetus to extending the coverage for the collection and reporting of data from all areas and sectors relevant to health.

Starting to implement this solution requires coordinated and user friendly access to a wide variety of data on health and health-related areas (e.g., health status, hospital activity, spending, staffing, environment, lifestyles, economy, demography, etc.) that are relevant to improving the efficiency and effectiveness of health services and the health of the population. More specifically, there are at least four essential prerequisites:

- A national integrated health database that provides a single, readily accessible source (bringing together a variety of data on indicators of health and areas related to health) for use at the national and subnational level.
- Identification of core indicators and creation of national minimum basic core indicator databases referred to above (which can also be used for international reporting and comparisons).
- A user friendly, menu-driven system that allows the nonexpert (policymakers, managers) to access and use both of the above.
- Management training in the use of such systems for improved decision making.

There are many examples at the national and international level in Europe today that try to implement some or all of the above elements as part of their health information strategies. At the international level, the World Health Organization (WHO) HFA indicator database system and the OECD health database are examples, while at national level, there are the UK health indicator systems, the Swedish and Norwegian systems (based on the HFA DPS) and the Finnish SOTKA database. The WHO Health Service Indicator (HSI) project for the CCCE (supported by the UK Know How Fund and the European Community) and the EUPHIN East project (also supported by the EC) are examples of international efforts to implement the above in countries with economies in transition.

However, what is common to all of these systems is that the power of comparison is a fundamental underlying principle to compare relevant data among countries, regions, hospitals, doctors, specific population groups, etc. Some of the above (e.g., the WHO HSI project) have management training as a key element, although without the other prerequisites, the training cannot realize its full potential.

The crucial role of computer technology and telematics

The historical lack of greater use of existing data at international, national, and local levels was also due to the fact that:

- the many “sectoral” health databases (e.g., mortality, hospital, manpower, etc.) were large, and the contents quite naturally focused on the particular needs of their primary constituencies;
- each of these “sectoral” databases was generally located on “large” central mainframes and often derived from other primary databases (e.g., manpower numbers from salary records, hospital data from admission and discharge information); and
- the telematics and computer technology was not sufficiently developed to enable ready and quick access and feedback to users to enhance comparisons (at best it was limited to “time share” via “large” mainframes).

As computer and information technology with greater storage capacity has been developed, the first tendency has been to centralize even larger amounts of data. This can lead to a self-defeating “overload” situation, with users so overwhelmed by the vast amounts of data that they may even find it difficult to select those data most relevant to their needs. Therefore, in this case, the key features for successful use of computer technology and telematics lie in:

- Recognition that all users do not want all of the data all the time. This points to a system of “distributed” databases, hosted at the sites of the sectors concerned (which could be both national or international-level institutions and agencies depending on the reporting level). These can then be linked telematically so that users can access those data that they may need, when they need them and at the level they need them.
- Development of user friendly software interfaces that meet the needs of the users to manipulate, access, select, and display information in a manner that facilitates comparison.
- Technical solutions that retain the concept of distributed databases but deliver reasonable performance in terms of access times
- Giving flexibility and choice in the technology used (diskette or telecommunication networks) for feedback, sharing, and access.
- Low operating costs (and solutions therein) that ensure continued use.

The current rapid advances in informatics mean that all the above features can become a reality, the overall objective being to provide a “seamless” system from the point of delivery of data to their eventual use for public health policy, management, and decision-making support.

Conclusions

The principles and solutions described in this paper have acted as a powerful stimulus and have boosted development of national health information systems, not only in the CCEE/NIS, but also in many other countries in Europe and elsewhere. They have also helped implementation of new information technology toward practical and focused approaches for better use of health information to manage national health services, rather than for new technology per se. To a large extent, the approach has also helped to improve the perception and importance of and the attitude toward the use of routine health statistics in decision making among large numbers of health managers at all levels in participating countries. Finally, the approach has created a solid basis and commitments for further, better internationally harmonized developments of national health information systems in participating countries and to expand them to other countries as well.

The challenge for the routine information systems of participating countries (and others) is to consolidate this progress and to ensure that the power of comparison continues to be used to extend systematically the sharing of knowledge, actions, and experiences resulting from those actions at international, national, and subnational levels so that there is “a practice-oriented exchange of experience” leading to a continuous improvement in the delivery of care to patients and the health of the population.