Health system performance management:
Quality for better or for worse

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Summary: There is a growing interest in measuring quality of care to help increase the value of health systems. This paper addresses the reasons and difficulties of health system performance measurement. It stresses the need for a thoughtful health system performance framework and illustrates the need of an adequate underlying information infrastructure with respect to mortality data, clinical registries, administrative databases and patient surveys. Various strategies are discussed that can help to turn health system performance measurement into health system performance management.

Key words: quality, health system, measurement, management

Although measuring quality of care remains a challenge for many health services, there is an increasing interest in not just assessing the quality of individual health system components but putting their performance in the context of the health system as a whole. This holistic system approach was enforced by the World Health Organization (WHO) Regional Office for Europe through the Tallinn Declaration in 2008 and more recently, the health ministers of the Organisation for Economic Co-operation and Development (OECD) countries came to consensus that alongside access, costs and prevention, quality of care is a key component in judging the performance of a health system.

Policy makers are no longer solely concerned with the costs of health care, but have moved forward with genuine interest in health system performance. This asks, alongside information on structure, process and output measurement, for additional information on outcomes of care. The recent emphasis of the Minister for Health in England to shift the focus to outcome measurement underscores this development.

Measuring health system outcomes can build on the long history of population statistics, but it is also challenged with the question of what outcomes can be properly attributed to the actual performance of health services. Apart from the challenge of measurement, the management challenge remains of how to link outcome measures to policy initiatives, such as financing (associating resource allocation to performance) or national quality improvement programmes. Thus Health System Performance Management asks for a clear conceptual model on what constitutes health system performance, data systems that provide the necessary indicators, and a policy and management system that actively uses this information for decision making.

Reasons for health system performance management
Health system performance assessment and comparability (both inter and intra national) have three primary goals including: accountability, strategic decision making and learning/improving. The first of these reasons relates to a transparency agenda and enables governments to justify the resources allocated to health care and the value generated. The second reason focuses on areas where countries identify performance problems and where specific attention is needed; examples include the need for national cancer plans or primary care strengthening. Comparative data can help countries identify areas for possible improvement. In order to realise and see improvement, more detailed information on why certain countries perform better than others is needed. When all of these components are in place, benchmarking and mutual learning becomes the management goal.

This paper summarises some of the recent developments in health system performance measurement by addressing the underlying performance frameworks and the various data sources, including mortality statistics, clinical registries, administrative databases, medical records and patient surveys. It also explores how the measurement activities can then be linked to management, thus creating the basis for health system performance management.

Why performance measurement in health care is difficult
By nature, assessing the quality of health systems is not easy. In industry, per-
Performance measurement is considered to be possible when an organisation has concrete and simple products, when an organisation is product oriented or when there is an autonomous production process with isolated products. In this arrangement, causalities are known, quality can be defined in indicators, products are uniform and the environment is stable. Compared with these conditions, health systems are dealing with organisations that have patient-centred obligations and are highly value oriented with multiple products, strong process orientation and a production process confounded by many co-producers. Furthermore, health system products are interwoven and the causalities are unknown. There are difficulties in defining quality in performance indicators and challenges arise in the variety of products and the highly dynamic environment.5

The need for health system performance frameworks

As a consequence, it should be clear from the beginning that a limited set of measures on the outcomes of a health care system most likely does not do justice to all the underlying care processes and the quality with which these are performed. Outcome indicators can help to signal potential areas of under performance, but it would be naive to assume that any set of measures exists, or will exist, that can be used in a one-to-one relation to manage the health care system.

It is not only the validity and reliability of individual performance indicators that are at stake here, but also the representativity (the volume of the underlying processes in the health system that can effect this indicator), relevance (the relevance of this outcome in relation to all possible health system outcomes) and usefulness (the ability of the indicator to help identify policies that can improve performance).

To assess the performance of a health care system it is therefore advisable to have a performance framework that considers carefully the various performance domains and assesses whether the indicators that populate a certain domain actually meet the criteria of validity, reliability, representativity, relevance and usefulness. Constructing a health system performance framework as such is not simply a neutral academic exercise but captures many political and managerial notions as well. It is thus advisable that such frameworks, for example developed in Canada, the United States, the Nordic countries and the Netherlands are based on a development process that involves the main stakeholders.6

The health system performance framework used by the OECD is based on several constructs: it considers health care as one of the determinants of health alongside environment, lifestyle and genetics (the classical Lalonde model). Four functions in the health system are identified (staying healthy, getting better, living with disabilities and coping with the end of life, as brought forward by the US Institute of Medicine) and it operationalises quality in three domains (effectiveness, safety and patient-centeredness) alongside access, cost and equity.7

The need for good databases: mortality data

Life expectancy and perinatal and maternal death have traditionally been considered statistics for health system performance assessment. Although the intuitive rationale of the relationship between health system performance and mortality seems appealing, it is far more difficult to attribute improvements in mortality to health care performance without considering other societal improvements in the welfare state.

In the search for appropriate outcome indicators, avoidable mortality (or more politically correct – mortality amendable to health care) has recently become popular again after an initial wave of research in the 1980s.8 Avoidable mortality surely holds a promise for measuring health system performance, but the studies on its factual validity and the ideal list of indicators that should be used and included is still ongoing (i.e., the Avoidable Mortality in the European Union study, AMIEHS). It seems therefore premature at this time to link avoidable death indicators to financial policies such as regional resource allocation.

The same holds true for mortality statistics on hospitals. Hospitals Standardised Mortality Rates (HSMR) are increasingly used in countries to assess the performance of hospitals, but the debate on the validity of this measure is still ongoing.8,9

Not only for avoidable mortality and HSMR, but also for the development of more refined statistics on cancer survival, it is necessary that mortality data be adjusted for co-morbidity. This would assume either that in databases this information is available, or can be made available, though the linkage of databases.

However, mortality statistics poorly register co-morbidities without standardisation and linkages to mortality statistics in administrative databases where any co-morbidity data could be assessed. Even with administrative databases, often the morbidity information is hampered through data protection and privacy concerns, diminishing the possibilities of mortality data use for meaningful assessment of the performance of health systems covering representativeness, relevance and usefulness, as discussed earlier.

Unique Patient Identifiers (UPI) can provide the linkage of necessary databases, but national governments will need to strike the appropriate balance between the need to obtain performance statistics and the need (to fulfill justified expectations) for data protection.

The need for good databases: administrative data and clinical registries

Administrative databases and clinical registries form major sources of performance information about the health care system. Over the past few years the OECD through its Health Care Quality Indicator project has explored the availability and quality of administrative databases in its member states. Among the findings, information in mental health care and primary care databases are often not standardised and generalisable enough to serve as the basis for international comparable indicators on the quality of care.10

Hospital-based administrative databases appear to be the best developed sources of desired data, partly through their direct linking with reimbursement systems. Reported indicators on primary care, such as avoidable hospital admission rates for diabetes, chronic heart failure, asthma and Chronic Obstructive Pulmonary Disorder (COPD), are derived from hospital-based administrative databases, as are the reported indicators on 30-day case fatality rates for acute myocardial infarction and stroke.10

More recently, the OECD has been working with a subgroup of eighteen countries on the calculation of Patient Safety Indicators following the work of the US Agency for Health Care Research and Quality.11 Although this work is still considered as research and development, it has identified some of the major challenges of improving administrative databases (and

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likewise clinical registries). Recommendations to address these challenges include:

- advice to actively use Unique Patient Identifiers to link administrative databases and clinical registries in order to enhance the possibilities of measuring the outcome of hospital care and better identify disease co-morbidities that can be used for case-mix adjustment in constructing outcome measures;

- advice to include a ‘present on admission’ code in the database to better identify whether a condition such as a bed sore or an infection was already present at the moment of hospital admission;

- advice to have more extensive coding of secondary diagnoses (co-morbidities); the average number of secondary diagnoses codes per admission varies considerably between countries, thus hampering the international comparability.

The need for good databases:

Electronic Health Records

Potentially an electronic version of the medical record would be an ideal basis for deriving information on quality of care. However even in the limited number of countries where this has been broadly implemented and is fully functioning, current use is limited. Most of the current debates on Electronic Health Records (EHRs) focus on data use for individual patients. The debate on secondary data use for population statistics, i.e., construction of quality measures, is less prevalent. However, an increasing number of countries, among them the US, Australia and the Nordic countries, are trying to put regulations in place that would facilitate the use of the EHR for quality measures.

The need for good databases: patient surveys

The most direct source to obtain information on care quality is from the patient. Increasingly patient surveys are used as a systematic tool to obtain information on quality of care. This may be information on the service delivery components of health care, but also on the effectiveness (the Patient Reported Outcome measures).

For the return of data collection through surveys in a sustainable, valid and reliable way, a systematic and national approach towards the measurement of patient experiences is warranted. The OECD has formulated some principles for such an approach. In the meantime, the survey approach in many countries remains too ad-hoc and is not institutionalised enough to deliver a constant stream of comparative information on performance.

From health system performance measurement to health system performance management

A comprehensive conceptual framework and sufficient databases to calculate quality indicators are two of the three steps to turn Health System Performance Measurement into Health System Performance Management. For this third step a direct linkage of measurement activities with policy and decision making in the health care system is necessary. This linkage is first and foremost to be found at the national level in the health ministry. Are the data on health system performance actively used for assessing the system and does this result in strategic decision making and policies aimed at learning and health system improvement?

The OECD discerns four areas where the linkages can be made: health system inputs (professionals, organisations, technologies); health system design (allocation of responsibilities, public health alongside social care, primary, acute and long-term care); monitoring (quality of the data-infrastructure and the various mechanisms for monitoring services and professionals) and health system improvement (incentive structures and national improvement programmes). These linkages assume that health system performance serves as an anchor point in policies for the coordination of care, patient-centred care, health technology assessment and clinical evaluation, patient safety and pay for performance.

Quality governance thus becomes far more than issuing national reports on health system performance. It is a systematic management challenge to assess and improve the performance of the system as a whole. These efforts can be strengthened when measures used in health system performance frameworks are directly related to the measures used for assessing the performance of specific parts of the health care system, pertaining to both services and individuals.

The agenda to develop performance measures should not be isolated from policies on certification and accreditation, guideline development, quality system development, national audits and national improvement programmes on quality and patient safety. Only then will Health System Performance Management become a reality.

REFERENCES


