Introduction

Which areas of the health care system are providing value-for-money and which show opportunities for performance improvement? While ongoing national and international efforts, such as the Systems of Health Accounts, are providing better information on health care spending, information on the value that health care services create is still limited. Quality of care, or the degree to which care is delivered in accordance with established standards and optimal outcomes, is one of the key dimensions of value.

Many OECD countries are reporting on quality of care at the national level, whereas other countries are still lacking the data infrastructure to derive such information. Internationally comparable data on quality of care are needed to allow countries to explore underlying factors in the organisation and financing of health care. The OECD's Health Care Quality Indicators project (HCQI) is developing a set of quality indicators at the health care systems level (Mattke *et al.*, 2006; Garcia Armesto *et al.*, 2007). Its approach is to complement and co-ordinate efforts of national and other international bodies. Combined with other initiatives, this effort will offer policy makers and other stakeholders a toolkit to stimulate cross-national learning. All 30 OECD countries, along with five European Union countries that are not member countries, and Singapore, are now participating in the project.

Constructing the toolkit requires three building blocks: a conceptual framework to define the dimensions to be captured; relevant and scientifically sound indicators to reflect performance across those dimensions; and data to implement the selected indicators. Since its inception in 2003, the HCQI project has made significant progress towards assembling the first two components. As discussed in the general introduction of this publication, a conceptual framework has been developed that reflects the shared understanding of countries regarding the key performance dimensions of the health care systems (Kelley and Hurst, 2006). There has been consensus that the project should initially focus on the technical quality of care (*i.e.* medical effectiveness). Several reviews have also been completed and published to identify suitable indicators for quality of care in areas such as cardiac care, diabetes and mental health.

The main limiting factor, however, remains the availability of data to construct quality indicators, especially at the international level. The limited adoption of electronic health records (EHR) means that the detailed clinical information required for many indicators is often unavailable, restricting the project to indicators that can be derived from more widely available, but less informative administrative data. The lack of use of unique patient identifiers (UPI) in some countries limits the ability to track patients across care settings and institutions and thus the opportunity to capture care pathways longitudinally. Lastly, differences in coding systems and data collection standards hamper the international comparability of indicators.

In spite of those shortcomings, substantial progress has been made. A total of 40 indicators have been adopted, 23 of which are featured in this edition of *Health at a Glance*. These indicators cover key health care needs, all major health care services, and most major disease areas. New areas covered in this publication, compared with the previous edition of *Health at a Glance*, are the treatment of chronic conditions in primary care and mental health care. While several coverage gaps remain, such as patient safety and patient experiences, and comparability across countries still needs improvement, the indicators allow policy makers and other stakeholders to begin to draw inferences about relative health care system performance in several key areas. This chapter illustrates the use of HCQI indicators to explore policy questions in the areas of care for chronic conditions, acute exacerbations of chronic diseases, mental disorders, cancer and communicable diseases.

The indicators cover both processes and outcomes of care for a range of conditions (see Table 5.1). The OECD HCQI website, available at *www.oecd.org/health/hcqi*, provides more information on the sources and methods underlying the data.

5.1 Areas covered by the current set of indicators

	Process measures	Outcome measures
Care for chronic conditions		Avoidable asthma admission rate Avoidable chronic obstructive pulmonary disease (COPD) admission rate Avoidable diabetes acute complications admission rate Avoidable diabetes lower extremity amputation rate Avoidable congestive heart failure (CHF) admission rate Avoidable hypertension admission rate
Care for acute exacerbations of chronic conditions		Acute Myocardial Infarction (AMI) 30 day case-fatality rate Stroke 30 day case-fatality rate
Care for mental disorders		Unplanned schizophrenia re-admission rate Unplanned bipolar disorder re-admission rate
Cancer care	Cervical cancer screening rate Breast cancer screening rate	Cervical cancer survival rate Cervical cancer mortality rate Breast cancer survival rate Breast cancer mortality rate Colorectal cancer survival rate Colorectal cancer mortality rate
Care for communicable diseases	Rate of childhood vaccination for pertussis Rate of childhood vaccination for measles Rate of childhood vaccination for hepatitis B Rate of influenza vaccination for elderly people	Incidence of hepatitis B

Interpretation and use of the data

The indicators presented in this chapter do not provide a complete assessment of the performance of health care systems with respect to quality of care, as both their comparability and their coverage are limited. Since the last publication of OECD *Health at a Glance* in 2007, efforts have been made to gather data that are as comparable as possible across countries. Improvements include the implementation of clear data quality standards and standard procedures for age and sex adjustment. Confidence intervals have been calculated to identify statistically significant differences between indicator values. Nevertheless, as with other indicators in *OECD Health Data*, differences in definitions, sources and methods remain, and are noted. In particular, additional work on improving comparability and adjusting for differences in patient risk profiles across countries is needed. While the indicators are based on evidence and have been used for research and analysis *within* countries, it is not yet fully understood why they vary *across* countries. The development of further indicators to provide a more comprehensive account of quality remains necessary to allow more robust benchmarking of health care system performance.

The data presented in this chapter should be looked at as raising questions about the quality of care in different countries, rather than providing definitive answers or normative judgments. While information is provided to assure the reader of the importance and scientific soundness of each indicator, the data and findings presented should be considered as a starting point for a better understanding of variations in quality of care and to promote further analysis of different national experiences. Ongoing work under the HCQI project will improve comparability and coverage and offer a more robust view of comparative performance in the future.

Future priority areas

In line with the established conceptual framework (Kelley and Hurst, 2006; Arah *et al.*, 2006), the OECD HCQI project is seeking to improve and expand the current set of quality of care indicators in the domains of patient safety and responsiveness/patient experiences.

In response to the growing interest in monitoring and improving the safety of medical care (WHO, 2008a; Council of the European Union, 2009), the OECD has been exploring the potential for international comparisons of patient safety using routine hospital administrative data (OECD, 2007c). In 2007, a preliminary study was undertaken among seven OECD member countries to investigate the feasibility of calculating a set of 12 indicators originally published by the United States Agency for Healthcare Research and Quality (AHRQ). Given the encouraging results of this initial study (Drösler *et al.*, 2009a), an extended data collection was undertaken in 2008, involving 16 countries and 15 patient safety indicators (see Table 5.2).

5.2 List of patient safety indicators studied in 2008

Area	Indicator name
Hospital-acquired infections	Decubitus ulcer (PSI 3) Catheter-related bloodstream infections (PSI 7)
Operative and post-operative complications	Complications of anaesthesia (PSI 1) Iatrogenic pneumothorax (PSI 6) Postoperative hip fracture (PSI 8) Postoperative respiratory failure (PSI 11) Postoperative pulmonary embolism (PE) or deep vein thrombosis (DVT) (PSI 12) Postoperative sepsis (PSI 13) Accidental puncture or laceration (PSI 15)
Sentinel events	Foreign body left in during procedure (PSI 5) Transfusion reaction (PSI 16)
Obstetrics	Birth trauma – injury to neonate (PSI 17) Obstetric trauma – vaginal delivery with instrument (PSI 18) Obstetric trauma – vaginal delivery without instrument (PSI 19) Obstetric trauma – caesarean section (PSI 20)

Note: The numbers in brackets refer to the US Agency for Healthcare Research and Quality patient safety indicators.

In order to facilitate comparisons, technical specifications and methods of calculation for these indicators were developed (Drösler, 2008), and the potential impact of national variations in the distribution of age and gender, length of hospital stay and medical and surgical treatment was assessed.

This provided grounds for the OECD to collect seven of the indicators in 2009, namely: catheter-related bloodstream infections, postoperative pulmonary embolism or deep vein thrombosis, postoperative sepsis, accidental puncture or laceration, foreign body left in during procedure, and obstetric trauma after vaginal delivery with or without instrument. A total of 18 countries participated in the third round of data collection in early 2009. However, issues with the completeness and comparability of the underlying data, and caution over the interpretation of the findings means that these indicators are not currently deemed suitable for presentation in this publication.

A detailed technical report on the 2009 data collection and the current state of development of the OECD set of patient safety indicators has been released (Drösler *et al.*, 2009b) and can be downloaded from the OECD website: *www.oecd.org/health/hcqi*. This report identifies the key challenges that need to be addressed to enable meaningful comparisons of patient safety in the future, and foreshadows the ongoing work of the OECD to address data issues and enhance national information infrastructures. In particular, the need for improvements in the routine administrative databases of OECD countries is highlighted. Through the strengthening of

secondary diagnoses coding, establishment of condition present-at-admission codes, standardisation of medical procedure codes and further use of unique patient identifiers, international comparability of safety indicators will be significantly enhanced.

In addition to patient safety, the OECD is seeking to address the domain of responsiveness by strengthening the capacity for international measurement of patient experiences of health care. Recent work in collaboration with national experts and international organisations is focussing on the development and application of population-based survey instruments.

The establishment of meaningful indicators in these two priority areas, along with further refinement and development of indicators within existing indicator areas (*e.g.* health promotion, prevention and primary care), will allow a more complete assessment of the quality of care provided through OECD country health systems in the future.