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Quality of care

Measuring a neglected driver of improved health

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Abstract: The quality of care provided by health systems contributes towards efforts to reach sustainable development goal 3 on health and wellbeing. There is growing evidence that the impact of health interventions is undermined by poor quality of care in lower-income countries. Quality of care will also be crucial to the success of universal health coverage initiatives; citizens unhappy with the quality and scope of covered services are unlikely to support public financing of health care. Moreover, an ethical impetus exists to ensure that all people, including the poorest, obtain a minimum quality standard of care that is effective for improving health. However, the measurement of quality today in low- and middle-income countries is inadequate to the task. Health information systems provide incomplete and often unreliable data, and facility surveys collect too many indicators of uncertain utility, focus on a limited number of services and are quickly out of date. Existing measures poorly capture the process of care and the patient experience. Patient outcomes that are sensitive to healthcare practices, a mainstay of quality assessment in high-income countries, are rarely collected. We propose six policy recommendations to improve quality-of-care measurement and amplify its policy impact: (i) redouble efforts to improve and institutionalize civil registration and vital statistics systems; (ii) reform facility surveys and strengthen routine information systems; (iii) innovate new quality measures for low-resource contexts; (iv) get the patient perspective on quality; (v) invest in national quality data; and (vi) translate quality evidence for policy impact.

Keywords: health interventions, health systems, quality of care, universal health coverage

Figures: at the end of the paper.

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Introduction

High quality of health care is an important component of efforts to reach sustainable development goal (SDG) 3: to ensure healthy lives and promote well-being for all at all ages.¹ The United States National Academy of Medicine defines quality as the extent to which health-care services provided to individuals and patient populations improve desired health outcomes.² The key tasks for quality measurement are to assess the performance of services and to quantify the gap between reality and expectations in reference to certain standards and guidelines. However, a lack of consensus exists on the role of quality of care in achieving SDG 3,³ which is reflected in the absence of measures of quality that are appropriate to lower-income settings. This paper addresses the rationale for elevating the issue of quality in the global health discourse. We outline the current status of quality measurement in low- and middle-income countries and the gaps in measuring quality of care. We conclude with policy recommendations.

Why now?

For the following reasons we propose that now is the time to focus on quality of care in low-resource settings and, specifically, to tackle the challenges of measurement.

Responding to complexity

The millennium development goals (MDGs) on health focused on combating maternal and child mortality and a relatively small number of diseases.⁴ These efforts boosted disease-specific (vertical) funding for health services and in some cases were accompanied by strong accountability mechanisms including measurement of outcomes and service quality.⁵ SDG 3 and its targets encompass more conditions, and, by including noncommunicable diseases, are also more complex to attain than the MDGs. As we move into the SDG era, the funding and delivery streams are being interconnected and integrated into broader health systems to promote more rational and patient-centred health care across a wide range of health needs. This is observed at both global⁶ and country levels. The logistics of integration, including ensuring technical efficiency, will be challenging, but may also provide an opportunity for adoption of best practices in quality management in areas ranging from stand-alone vertical programmes to the broader health system.⁷

Acting on evidence

The impact of health-service quality on health outcomes has been well documented in high-income countries,^{8–11} and poor quality is increasingly being linked to failure to attain expected health-care improvements in low- and middle-income countries. Studies from India, Malawi and Rwanda have shown that greater access to institutional deliveries and antenatal care was not accompanied by reductions in maternal and newborn mortality; a finding attributed to poor quality of care.^{12–15} Higher than predicted maternal mortality has been found in hospitals in high-mortality lower-income countries, despite good availability of essential medicines, suggesting clinical management gaps or treatment delays for women who develop obstetric complications.¹² In the area of infectious disease control, nearly one third of all outpatients ($n = 2019$) in publicly-funded health facilities in Malawi received incorrect malaria treatment.¹⁶ Providers in India frequently gave inaccurate care to tuberculosis patients;¹⁷ in one study only 11 of 201 private practitioners followed diagnostic standards for tuberculosis management.¹⁸ Worldwide, low-quality facilities have been implicated in higher mortality after surgery.¹⁹ The effects of low quality of health services will be magnified in efforts to achieve the more complex SDG health goals.³

Ensuring policy success

Quality of care is also central to the success of several health policy instruments recently introduced in low- and middle-income countries, such as universal health coverage and results-based financing. The universal health coverage target of SDG 3 (target 3.8) requires that everyone have access to affordable and quality health services. But if those services are poor quality, people are unlikely to use them or agree to pay higher taxes or insurance premiums for them. Most countries in Latin America, for example, have explicit provisions in their constitutions guaranteeing the right to health care for all citizens, and many nations have embarked on universal health coverage.²⁰ However, in Mexico, the effective or quality-corrected coverage of health services is relatively low, and varies widely across states, despite achievement of universal health coverage.²¹ Furthermore, Mexicans have high out-of-pocket expenditures, partly due to using private health care to supplement the public system.²² If universal health coverage fails to provide high-quality services, those who can afford it will choose to seek care outside the system, thus undermining public support for – and the sustainability of – financing of universal health coverage. The quality of health-care services funded by universal health coverage needs to be monitored and if necessary, improved, to promote appropriate utilization, stable financing and better outcomes.

Results-based financing, called pay-for-performance in high-income settings, is increasingly being used to expand the use and quality of specific health services in low- and middle-income countries. While results-based financing has increased the use of some health services through performance-based incentives to health workers, evidence of its impact on quality is inconclusive.^{23,24} More and better research is required to know whether this can be a useful instrument for improving quality and attaining desired health outcomes.

Resolving ethical concerns

There is also an ethical dimension to quality of care. While the right to health care is widely accepted, less has been said about the quality of this care. First, one of the core principles of medicine is to do no harm. Yet there is still minimal systematic measurement of patient safety in the health systems of low- and middle-income countries.²⁵⁻²⁷ Second, little is known about wealth inequalities in the quality of care received. Julian Tudor Hart famously noted that the availability of good medical care tends to vary inversely with the need of the population served.²⁸ We do not know how the quality of services available to poor people compares with that of richer people in the same country. The quality of care should be monitored and evaluated regardless of who provides the care, i.e. equally in private and public settings, and for both curative and preventive care. The work on equity of coverage led by the Countdown to 2015 initiative provides an excellent model for analysis and policy translation of equity data that can be adapted to quality of care.²⁹

A third ethical issue is defining the quality baseline. What are appropriate quality standards in countries with extremely constrained health resources? Should doctors in remote African villages follow the same guidelines in treating fever as those used in North American medical centres? Some argue that less effective care is ethically acceptable when the alternative is no care, but this assumes that the care will still bring substantial benefit to patients.³⁰ What is the minimum effectiveness that we are willing to accept, given the costs of health-care provision to governments and to families, and the legitimate expectations of people receiving the care? Finally, once a minimum standard is defined, the pursuit of a higher level of quality must be balanced with its cost and with the need to guarantee the minimum level of care quality to the entire population.³¹ Countries will need to define a quality frontier that situates their aspirations for quality within realistic budget constraints and that recognizes trade-offs between speed of expanding services and

ensuring minimum quality standards. For this, countries require detailed data on the cost of quality improvement strategies: data that do not exist today.

Current status

What was the status of quality-of-care measurement in 2016? Systematic assessments of quality of care conducted in Europe and the United States of America in the early 2000s ushered in a new era of quality measurement and quality improvement in high-income countries.^{8,10,11} This was not matched, however, in lower-income countries. Although the signing of the MDGs in the year 2000 led to an explosion of measurement and research on coverage, access and utilization of health care in low- and middle-income countries, a similar pattern was not observed for research on quality of care. This is illustrated by a simple search of the PubMed database for the number of articles published on these topics from African, Asian or Latin American countries over the years 1995–2015 (Fig. 1).

While individual projects in lower-income countries frequently collect data on quality of care, there has been relatively little research that can permit comparison and benchmarking of quality within or across countries. A framework for the different ways to measure quality is presented in Fig. 2. Following Donabedian's theory of quality of care,³¹ the framework proposes three dimensions of quality of care that need to be tracked and, ideally, linked: (i) structure (facility infrastructure, management and staffing), (ii) process (technical [clinical] quality and patient experience) and (iii) outcomes (patient satisfaction, return visits and health outcomes). In high-income countries the main measures of quality have typically been patient outcomes that are sensitive to health-care practices, such as the association between skilled nursing and hospital readmissions.^{32–34} Nevertheless, there are calls to reconsider the importance of process measures that can provide concrete guidance on where to begin improvement efforts.³⁵ Since many low- and middle-income countries lack the health information systems to collect these care-sensitive outcome measures, it is reasonable to begin with inputs and process measures. Inputs, such as water, sanitation and electricity, represent the minimum threshold for a functioning health-care facility; this is sometimes termed service readiness. Most of the existing efforts to measure quality have emphasized this tangible element of care, yet a cabinet full of unexpired medicines does not necessarily translate into good clinical care, and the connection between inputs and processes is poorly understood. Much more emphasis is needed on measuring the processes of care – the

content and nature of clinical interactions – and the intangible elements of care underlying those interactions – such as health-sector organization, facility management and staff training and motivation. This is especially timely as it relates to ongoing debates on task-shifting of health care from physicians to non-physician health workers.³⁶ Ultimately, we need evidence linking quality of care to health outcomes, and this is why the benchmarking of quality of care in the specific context of low- and middle-income countries is necessary.

Policy gaps

Given the constrained resources, it is essential for the quality-of-care measurement framework to prioritize the questions asked to identify the limitations on what is being done.

Structure

Data for measuring the structure dimension of quality care, including facility infrastructure, staffing and clinical training, generally come from routine health-facility records and surveys. Record systems suffer from incomplete and inaccurate data as well as reporting delays, often resulting in out-of-date information of little use. Routinely collected health data are not standardized, precluding comparison across and, sometimes, within countries.^{37–39} Periodic health-facility surveys can provide better quality data, but such surveys describe the situation at one point in time and are restricted to a few services, typically excluding noncommunicable diseases, injuries and mental health, for example. A recent comprehensive review of health-facility assessment tools in low- and middle-income countries found that among the 10 tools that met the study’s inclusion criteria there was substantial variation in their content and comprehensiveness. Of the 41 domains for comprehensive health system measurement identified by the authors, the actual number of domains covered by each of the assessment tools ranged from 13 to 33, with a median of 25.5.⁴⁰ For example, even when data on the health workforce were available, the indicators on staff presence and availability of emergency staff were mostly missing, as were any assessments of the clinical training the staff had received.⁴⁰ The review raised two concerns; first, the data being collected at the health facility level are inconsistent, incomplete and difficult to compare; and second, there is a preference towards the evaluation of primary-care services over those of secondary and tertiary care.⁴⁰ Finally, facility surveys offer an incomplete picture of the state of health services. For example, one of the most widely implemented programme of surveys – service provision assessments – has been conducted in only a handful of countries and typically only once

in each country. One positive step in this direction is the Health Data Collaborative's efforts to revise and harmonize existing surveys to reduce duplication.⁴¹

Process

Measures of process quality of health care include both its technical quality and the experience of the patients receiving the care. The tools available for assessment of provision of clinical care include standardized patients, clinical vignettes, abstraction of medical records, simulations or clinical drills, and direct clinical observations.⁴² Standardized patients are trained actors who make an unannounced visit to a health-care facility and present symptoms of a simulated condition; they complete an assessment checklist on the clinical actions of the provider after the visit.⁴² In clinical vignettes, practitioners follow a written clinical case, responding to questions that replicate certain stages of an actual clinic visit, such as taking a history, ordering tests and prescribing a treatment plan. Providers' responses are scored against evidence-based criteria for managing the simulated disease.⁴³ Abstraction of medical records to identify standards-based practice is a common way of evaluating clinical performance; however, its validity is undermined by the lack and inconsistency of records in resource-constrained settings. Also these data are often collected by trained health personnel, making it an expensive task.⁴² Audits, such as morbidity and mortality reviews, can also provide valuable insights into quality failures. Simulation and clinical drills, in which the practitioners are given a scenario and are instructed to demonstrate clinical skills on a mannequin, are mainly used for teaching rather than for assessing quality in practice. Clinical observation is the direct observation or recording of a real-life patient and is an effective, well-established method for evaluation. Clinical observation and standardized patients are considered to be the gold standard measures but they are resource-intensive methods and thus difficult to scale up. They also have limited utility for assessing the care of serious conditions that are either too rare to reliably observe or cannot be simulated by an actor.⁴⁴

Another issue is that interpersonal care quality and the patient experience are rarely measured. Yet respectful treatment, convenience and good communication are important to patients as individuals and are needed for promoting greater adherence to treatment and better health outcomes.⁴⁵ Respectful care, for example, plays an important role in improving patient satisfaction and encouraging return visits,⁴⁶ and there is a need for this concept to be incorporated into broader quality measurement and improvement efforts. The scope of inquiry into drivers of

quality must extend beyond the facility and the immediate health-care team; good quality depends on district-wide service organization, pre-service training and community accountability mechanisms, among many other factors. To understand the root causes of quality gaps, whether for technical or non-technical quality, it is necessary to obtain perspectives on quality from a range of health-system stakeholders. Face-to-face interviews with patients, and written surveys, are typically used to measure the patient experience. Patients are best-positioned to determine whether care aligns with their values and preferences, and to convey their experience of provider communication, service convenience and so on.⁴⁷ The expansion of communication technology and social media provides new opportunities for getting feedback on quality of care and returning relevant information back to users.

Outcomes

Care-sensitive outcomes have been the mainstay of quality measurement in wealthy countries. However, obtaining these data is costly as it requires follow-up of patients after facility visits, and is challenging in low-income settings which may lack systematic collection of population data. A first step would be to improve the collection of in-facility health outcomes, such as rates of surgical and maternal deaths, stillbirths and early newborn deaths. For this, routine health information systems need to be upgraded: an investment which has many health system benefits.⁴⁸ Population-based health information sources, such as household surveys, censuses and civil registration or vital statistics, need to be strengthened to obtain data on health outcomes that can be linked to the quality of care provided in the health system. In particular, vital statistics are essential to understand the size and location of populations that require health services. Age- and sex-disaggregated population data permit calculation of effective coverage, which is a quality-corrected measure of population coverage of interventions and services and which can uncover gaps in care quality in the country.⁴⁹ For example, an evaluation of the quality of routine and emergency intrapartum and postnatal care in Ghana found that although 68% of 15 884 women delivered in a health facility, the estimated effective coverage with high-quality obstetric care was only 18%.⁵⁰

Box 1: Policy recommendations to improve quality-of-care measurement

Recommendations for improving data collection methods and instruments

1. Redouble efforts to improve and institutionalize civil registration and vital statistics systems. Without an accurate count of all births and deaths, there is no accountability for health-system performance and no denominator for tracking health-care quality.
2. Reform facility surveys and strengthen routine health information systems. Current health-facility surveys need to be more concise, more frequent and more focused on processes and outcomes of care instead of inputs. Routine health information systems should be strengthened to collect accurate in-facility health outcomes. Strong routine information systems can be used to track quality over time and to evaluate improvement efforts.
3. Innovate new quality-of-care measures for low-resource contexts. Current outcome measures for conditions sensitive to health-care practices, and observation of clinical care, are not feasible for routine quality assessment in the lowest income countries. Development and validation of new measures and new measurement technologies are needed.

Recommendation for expanding the scope of measurements

4. Get the patient perspective on quality. Quality is too often seen as a supply-side concern. Yet patients form their own, highly relevant assessments of quality that affect their use of care and adherence to treatment and, ultimately, population health outcomes. Understanding the patient experience gives direct insight into what is and is not working towards achieving high quality of care.

Recommendations for translating the data for policy impact

5. Invest in national quality-of-care data. Rigorous collection of quality-of-care data must move beyond individual projects and facilities to the entire health system. Measurements that are representative at the national and subnational levels permit governments to plan and track improvement. The experience of the Countdown to 2015 initiative²⁹ and similar efforts during the era of the MDGs showed the power of systematic, accurate national data in spurring action to improve health-care coverage. The same can be done for quality. Cross-national comparisons can create peer pressure among countries to improve health-system performance.
6. Translate quality evidence for policy impact. Robust and meaningful data presented in intuitive ways will greatly improve policy uptake of quality data. Global health funders should invest in national capacity to analyse and present data on cross-national collaborations on quality analysis as key public goods.

Recommendations

As the above discussion notes, the status of quality-of-care measurement today is not adequate to guide countries committed to pursuing SDG 3 on health and well-being. We propose six recommendations to improve the measurement of quality of care and its impact on improving health outcomes in lower-income countries. These fall into three areas: improving data collection methods and instruments; expanding the scope of measurements; and translating the data for policy impact. The six recommendations are: (i) redouble efforts to improve and institutionalize civil registration and vital statistics systems; (ii) reform facility surveys and strengthen routine

information systems; (iii) innovate new quality measures for low-resource contexts; (iv) get the patient perspective on quality; (v) invest in national quality-of-care data; and (vi) translate quality evidence for policy impact, and are presented in detail in Box 1.

While countries themselves will need to take the lead, global partners can lend their experience, funds and technical support to develop new methods and disseminate robust, comparable statistics on quality of health care.

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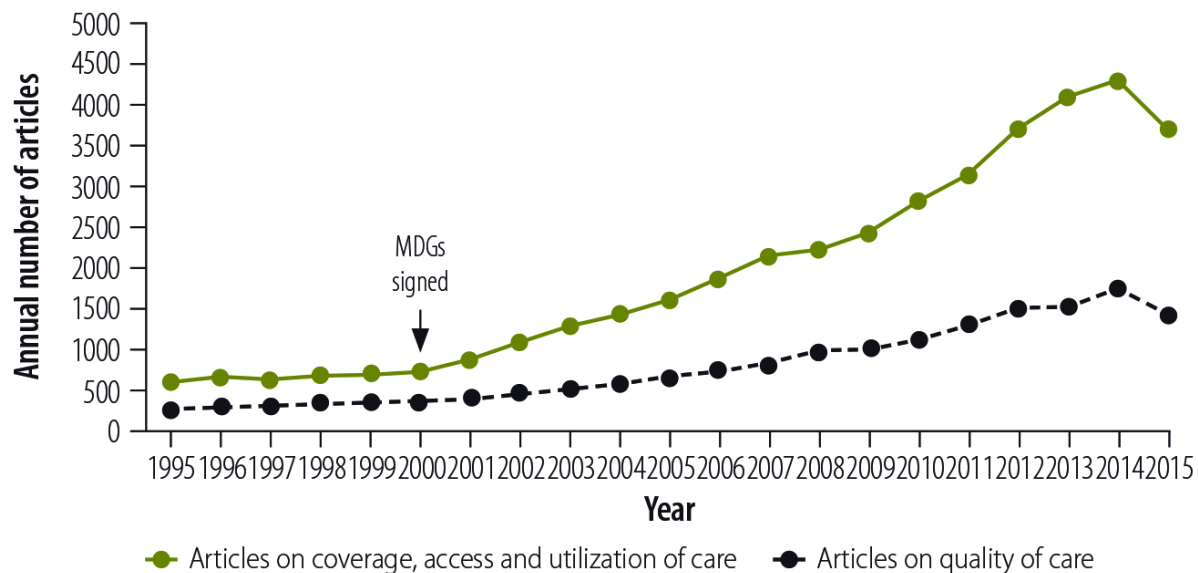
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Fig. 1: Annual number of articles published on quality and coverage of health care from the countries of Asia, Africa and Latin America, 1995–2015



MDG: millennium development goals.

Notes: An online search of the PubMed database was made (by the authors) on 17 May 2016 for articles matching the terms “Asia” or “Africa” or “Latin America”. Using the results by year option in PubMed, we downloaded data (comma-separated value files) on the number of articles listed per year and converted these to a chart. The solid line shows articles indexed under “coverage” or “utilization” or “access.” The dotted line shows articles indexed under “quality of care”.

Fig. 2: Domains of quality-of-care measurement and data sources

