Chapter 1
Introduction

James R. Heiby

Abstract The Introduction by Dr. James R. Heiby frames this Case Book as intending to fill a gap in the current health-care quality improvement literature by distilling the experience and lessons learned by health-care improvers based on decades of experience seeking to improve health-care services and outcomes in low- and middle-income countries. Each of the 12 cases included in this book was written by practitioners of quality improvement and provides real-life examples of the challenges, strategies, and benefits of improving health-care processes in low-resource settings. These cases are intended to demonstrate what quality improvement approaches look like in practice and to demystify quality improvement methods for those making their own attempts at improving health care.

Keywords Health care · Low- and middle-income countries · Model for improvement · Plan-Do-Study-Act · Quality improvement · United States Agency for International Development

Early in my career at USAID, I had a meeting with a visiting health official from Ghana. When I told him, "I want to talk to you about a new project that's doing quality improvement," he laughed in my face. He thought that was really ridiculous, the idea of using modern improvement methods to improve health care in Ghana. He thought it was just an absurd idea and one that was bound to fail.

Yet, we persisted in our efforts to introduce and apply quality improvement methods to tackle gaps in health services – in Ghana and in other low-resource health systems worldwide. We were soon able to demonstrate the success of this approach through improved care and outcomes.

When I speak with health officials from low- and middle-income countries now, they are not incredulous that these methods will work in their countries because they have seen them work. But there are still a lot of doubts and questions about how these methods are applied in practice.

To date, most of our attempts to explain quality improvement have been abstract or theoretical, which has not led to an awareness of quality improvement methods

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among the broad population of health-care providers. It's not easy or practical for our target audience – frontline health-care providers and managers – to understand and learn improvement methods from these models. Health-care providers and managers will be much more likely to buy into, learn, and apply these methods if they're shown concrete examples of what we're talking about.

This book is a collection of case studies capturing decades of experiences from low- and middle-income countries in improving health-care services and outcomes. Each case study is written by health-care improvers who have been at the forefront of this work and provides real-life examples of the challenges, solutions, and benefits of improving health care. My intention is that these cases will clearly demonstrate for readers what quality improvement looks like in practice and help demystify these approaches for those making their own attempts to improve care.

What Is Improvement?

What do we mean by health-care improvement? Basically, we know a lot about how to improve health care. Over the years, we've seen remarkable improvements in health care by increasing providers' knowledge and using new tools, technologies, and medicines to prevent disease and diagnose and treat patients. But what is meant by "improvement" as a methodology is a little different. *Improvement* is a directed effort to take what we know can improve health – proven, high-impact interventions like active management of the third stage of labor or keeping newborns warm – and ensure that those are implemented reliably, in different contexts, every time, for every patient who needs them. Because this is the problem: known evidence-based interventions are either not being implemented at all, not being implemented consistently, or not being implemented on a broad scale.

While there is no single best way to improve the quality of health care, there are several basic principles that underlie the most successful improvement efforts (Langley et al. 2009; Perla et al. 2013). These are:

- Engaging health workers in teams to improve their own work.
- Knowing why improvement is needed and why it matters.
- Developing effective ideas for changes that will result in improvement.
- Testing and adapting changes before implementing at large scale.
- Having a feedback mechanism to show if improvements are occurring.
- Knowing when and how to make changes sustainable by integrating them into the system of interest.

How Has the Field Evolved in the Last 30 Years?

When reading this book, it is important to remember that improving the performance of a system or process is not a new concept. Most of what is now called the "science of improvement" stems from the work of Dr. W. Edwards Deming, a statistician who proposed that improving the quality of the manufacturing production

process and eliminating delays, duplications, and errors would result in higher quality products and services at lower unit costs. Dr. Deming took his ideas to Japan in the 1950s, where they were embraced and applied to manufacturing automobiles, electronic appliances, and other consumer goods.

The same ideas began to be applied to improving the quality of health care in the United States in the 1990s. At the same time, programs supported by USAID to improve health-care quality in assisted countries began to adapt traditional strategies to incorporate process improvement approaches (Massoud et al. 2001). These approaches were applied to the delivery of priority health services, including obstetric care; immunizations; management of diarrhea, pneumonia, and malaria; and family planning (Heiby 1998).

Based on results achieved, interest in improvement grew rapidly, with many organizations developing branded models and applying them in donor-supported programs. While these models use different terminology, they often share common core elements, such as process analysis, use of standards, identification of key barriers, and closure of gaps between ideal and observed performance through active change to care processes, defining priorities for the improvement effort, empowering providers to identify problems and find solutions, and monitoring results (Tawfik et al. 2010). The proliferation of methods with different names has frequently resulted in confusion about definitions, terms, and jargon describing similar methods or concepts to achieve quality in health care and improve health outcomes (Walshe 2009).

Improvement Methods

Over the years, many approaches to improvement have been developed and used in low- and middle-income countries. Some approaches have centered on evidence-based standards and guidelines and making sure that providers use them, often linked with audit and feedback processes. Others have emphasized regulatory approaches, such as accreditation, certification and re-certification of professionals and facilities, and professional licensure and renewal. Most approaches include some form of training of health-care providers, yet few today would argue that training alone is sufficient to assure care quality. More recently, donor

> *I think it is a disservice to the sciences of improvement to reify the term "quality improvement" as if it were a device or even a stable methodology. Making patient care better is always a good idea, and there is no harm at all in using the term "improvement" to describe that quest. However, treating the pursuit of improvement (no initial caps) by searching for a boxable, boundable formula… is misleading. The ways in which people and organizations try …to continually improve the work that they do on behalf of patients are numerous and, thank goodness, will forever evolve.*
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> –Donald Berwick, *JAMA* 2012; 307(19): 2093–2094

agencies in particular have promoted performance-based incentives as the solution to quality issues.

These are all valuable approaches, but when applied alone are usually not enough to resolve all quality issues. Experience has shown that multipronged improvement strategies produce better results than single-focused ones (Wensing and Grol 1994; Wensing et al. 1998). Moreover, improvement approaches that lack active mechanisms to change processes of care have had limited impact, largely because such efforts tend to address only inputs to health systems with little or no focus on processes of care delivery (Davis et al. 1992; Oxman et al. 1995; Wensing et al. 1998; Massoud et al. 2006).

The right approach for a particular setting and quality of care problem depends on many contextual factors, such as resources available, improvement expertise, leadership support, time, and scale of effort.

One widely used approach to improve health care in resource poor settings – and one that was used in many of the cases in this book – is the Model for Improvement, which uses the Plan-Do-Study-Act (PDSA) cycle.[1] The PDSA cycle guides tests of change by health-care teams to determine if a change leads to improvement. Improvement teams typically comprise frontline health-care workers, supervisors, and others involved in care, either as providers or recipients, who identify and test feasible changes to usual processes to improve care in their local setting. The model offers practical steps to improve care, including the following:

- Choose a problem to address by using data or observation to identify gaps in care.
- Develop improvement aims to focus on what you are trying to accomplish.
- Set up a team that understands and can address the problem.
- Analyze the issue to understand the problem better.
- Develop change ideas by hypothesizing about what changes will improve the problem.
- Test changes using PDSA cycles to see whether the hypothesized solution yields improvement.

About This Book

This book is a series of case studies that show how improvement can happen at the national, regional, community, and facility levels in limited-resource settings and across a variety of service areas, including maternal and child health, HIV, chronic disease care, and services for vulnerable children. The authors have decades of experience in working on quality improvement, and their cases provide detailed examples of their own experiences and those of frontline providers they have worked with.

[1] Developed by *Associates in Process Improvement* [Access: http://www.apiweb.org/].

The cases summarize their persistent effort to identify gaps in care, propose changes to address those gaps, and test the effectiveness of their changes to improve health processes and outcomes throughout Africa, Eastern Europe, South Asia, Latin America, and the Caribbean. This, as the reader will see, often led to dramatic improvements in health-care processes and outcomes, including improving respiratory tract infection diagnosis and management practices for children; HIV testing for TB patients; and improving uptake of high-impact maternal care practices, among many others. In some instances, their efforts did not achieve the expected outcomes, or they faced obstacles that kept them from fully reaching their goals. Reflections at the end of each chapter provide an opportunity for the reader to learn from both the successes and the challenges of each case.

Most publications on health-care improvement focus primarily on results, with less emphasis on how specific actions in health-care improvement were initiated and completed. Moreover, most books on quality improvement in health are based on work and research conducted in the United States and Europe. This collection of cases aims to increase our understanding of the mechanisms and the context by which quality improvement interventions in the health sector work in low-resource settings. Each case focuses on how specific actions in health-care improvement were initiated, the processes and steps of the improvement effort on the ground, and the results of those efforts.

Our stories of improvement are wide-ranging. While some cases focus on the experience of one facility team that tested changes and then shared its successes with other sites, often through a deliberate collaborative improvement strategy linking the work of many facilities, other cases highlight the work of multi-facility improvement teams working simultaneously on a common goal or describe national-level strategies, like the use of electronic information systems.

Each case highlights different details in the design, implementation, and methods used to improve care. A case from Tanzania about strengthening accessibility of services for vulnerable children focuses on the steps needed to organize improvement efforts, including how improvement teams were formed, external support provided to initiate district- and ward-level efforts and conduct baseline assessments, and actions required to build the improvement capacity of frontline service providers. A case from Georgia on improving the quality of care for respiratory tract infections in children highlights the importance of coaching in supporting improvement teams. A case from Uganda shows how gender issues were integrated into improvement efforts. A case from India explores the role of leadership and early successes in creating buy-in for a quality improvement intervention. In Haiti, we see how data from an electronic medical records system helped inform improvement priorities at both the national and facility levels.

This book is for anyone who is interested and wants to learn more about health-care improvement, but my hope is that it will be most useful to those engaged daily in the noble task of making health care better: health-care providers and administrators; those managing health improvement projects within Ministries of Health in low- and middle-income countries; US government and other donor agency staff;

and other key decision-makers. The book will also be useful as a teaching text in schools of medicine, public health, public policy, or other related majors.

Those looking for detailed information about quality improvement methods and theories will not find that in this book. Instead, I would refer readers to some excellent resources on this subject (see Box 1.1).

Box 1.1 Resources on Quality Improvement Methods and Theories

The Improvement Guide: A Practical Approach to Enhancing Organizational Performance (second edition). Langley GL, Moen R, Nolan KM, Nolan TW, Norman CL, Provost LP. Jossey-Bass (2009)

Curing Health Care: New Strategies for Quality Improvement. Berwick DM, Godfrey AB, Roessner J. Jossey-Bass (2003)

Quality Improvement. Technical Reference Materials. Published for the United States Agency for International Development (USAID) by the Maternal and Child Health Integrated Program (2014). Available at the USAID Development Exchange Clearinghouse: https://pdf.usaid.gov/pdf_docs/PA00M5FQ.pdf

For over 30 years, I have worked on adapting modern quality improvement approaches from industrialized countries for use in the health systems of low- and middle-income countries. In my work with USAID, I have had the honor of working with some of the greatest minds and practitioners in applying improvement to health-care quality. It is my hope that this sample of improvement case studies will show the reader the power of improvement methods, expand their evidence base, and most importantly, encourage a better understanding of the culture and practice for improvement in order to achieve better health outcomes for all.

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Wensing M, Grol R (1994) Single and combined strategies for implementing changes in primary care: a literature review. Int J Qual Health Care 6(2):115–132

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