eRegistries
Initiative

learning package

evaluation & quality improvement

core principles

This learning package is intended to provide guidance on using eRegistry data for evaluation and quality improvement purposes and may be useful for health care providers, administrators and program planners, policy and decision makers, and researchers.

An eRegistry promotes the active use of data, not only to benefit health care providers and women in a clinical setting, but also to facilitate efforts that promote ongoing and long-term evaluation and quality improvement efforts. Thus, in addition to the benefits such as real time data, decision-making tools, and guideline support for health care providers, an eRegistry can be leveraged for broader evaluation efforts and quality improvement strategies.

An eRegistry can be a valuable evaluation tool by monitoring and reviewing health outcomes of pregnant women and newborns as well as measures related to performance, public health programs, and data quality. Local, regional, and national comparisons can facilitate feedback and evaluative efforts and identify under or over-performing settings. Benchmarking data that highlights healthcare providers' performance also represents an opportunity for investigating performance across providers or clinics in order to drive quality improvement.

Quality improvement efforts in the field of maternal and child health are also an important avenue for improving the health care and services provided to pregnant women and children.

One model that can be utilized for quality improvement efforts is the four stage PDSA tool which is an abbreviation for 'plan, do, study, act.'

- **Plan: Identify what needs improvement**

- **Do: Carry out the plan**

- **Study: Examine results**

- **Act: Use the findings for change**

The PDSA cycle provides a systematic framework for quality improvement projects that can be effectively used in an eRegistry context.

step by step guide

This step by step guide provides information on quality improvement and evaluation strategies using an eRegistry.

Although quality improvement and evaluation endeavors use different methods and approaches, they share similarities in that they both involve assessment efforts aimed at improving processes or practices with the ultimate goal of improving health outcomes. This learning package discusses these two approaches and briefly describes their unique strategies.

QUALITY IMPROVEMENT

The field of reproductive, maternal, newborn, and child health has experienced increasing attention to quality of care issues given the recognition of the potential impact that quality of care can have on coverage. In other words, access does not guarantee use.

Poor quality of health care services, in fact, may significantly deter utilization and impact health outcomes, hence, the growing recognition of the importance of addressing quality issues. Numerous frameworks and approaches have been put forth that conceptualize different dimensions or components of quality of care.

The Institute of Medicine, for example, has identified six unique dimensions, namely:

- **Safe:** Avoid harm to patients from the care that is intended to help them.

- **Effective:** Provide services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit (avoiding underuse and misuse).

- **Patient-centered:** Provide care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.

- **Timely:** Reduce wait time and delays among those who receive and those who give care.

- **Efficient:** Avoid waste, including waste of equipment, supplies, ideas, and energy.

- **Equitable:** Provide care that does not vary in quality due to gender, ethnicity, geographic location, and socioeconomic status.[1]

The Donabedian framework, arguably the most well known and commonly used paradigm to address quality issues in health care, categorizes quality into a triade that includes structure, process, and outcomes domains.[2] Delineating quality of care issues into structural, process, and outcome categories is an intuitive model that highlights the importance of context, setting, infrastructure, medical practices delivery of services on health status.

The Bamako Initiative offers another perspective that conceptualizes quality of care into four components, namely: effectiveness, efficiency, sustainability, and equity. WHO has also designed a framework that takes a philosophical approach recognizing the universal right to high quality health care.[3] These three frameworks offer different perspectives, indicators, and approaches that can all be used as a backdrop for engaging in health care quality improvement efforts.

The emergence of quality improvement registries – registries

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1   Institute of Medicine (IOM). Crossing the Quality Chasm: A New Health System for the 21st Century. Washington, D.C: National Academy Press; 2001.

2   Donabedian A. Evaluating the quality of medical care. Milbank Mem Fund Q. 1966;44 (Suppl):166–206. doi: 10.2307/3348969

3   Tunçalp Ö, Were WM, MacLennan C, Oladapo OT, Gülmezoglu AM, Bahl R, Daelmans B, Mathai M, Say L, Kristensen F, Temmerman M, Bustreo F. Quality of care for pregnant women and newborns—the WHO vision. BJOG 2015;122:1045–1049.

that are specifically designed to promote quality improvement by providing actionable feedback to care providers – also underscores the interest and importance of analyzing performance to improve patient care. Although an eRegistry is not a quality improvement registry per se, eRegistry data can support and facilitate quality improvement among the cadre of health care providers using the registry. The eRegistry's data, for example, can be used to measure and assess the performance of individual health care providers, clinics, or regions.

Quality improvement (QI) may utilize many different types of data as measurements to track progress, shifts, trends, that document change over time. Benchmarking data, for example, can highlight healthcare providers' performance and, therefore, represents an opportunity for investigating performance across providers or clinics in order to drive quality improvement.

Quality improvement efforts in the field of maternal and child health necessitate an understanding from the perspective of pregnant woman. One model that can be utilized for quality improvement efforts is the PDSA tool that stands for 'plan, do, study, act.' This simple four step process provides a systematic framework for quality improvement projects that can be used in an eRegistry context.

A comprehensive overview of the field of quality improvement applied to health is fully beyond the scope of this guide but a brief summary of how a PDSA cycle can inform a quality improvement process is presented below.

Step I. Plan and identify an appropriate QI issue

In other words, identify an issue or problem that can be solved using a quality improvement approach. Identifying an issue(s) of significant relevance to the provider or patient population will ensure continued motivation and interest. Issues may involve clinical quality or safety, administrative quality

indicators, over or under utilization, to name a few. During this first phase, one should address who, what, when, where, why, and how questions related to the project.
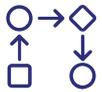
Step 2. Do: Enact the plan

Identify how performance or outcomes can be improved and identify the metrics that can be used as measurements to assess progress. In other words, identify the performance or measurement of interest from the eRegistry database and then carry out a plan to improve the quality of interest.

Step 3. Study the results

Analyze the findings and observations and carefully consider what barriers exist that could hinder improvement. Summarize the lessons learned.

Step 4. Act.

Communicate the findings to instigate change and drive future quality improvement plans. One important aspect of the PDSA model is the philosophy of the need for a continuous and ongoing cycle of improvement.

EVALUATION PLANNING

An eRegistry can be used to evaluate clinical, service, or administrative processes or health outcomes. The possibilities of using eRegistry data for evaluation purposes are endless. Evaluations, for example, could focus on performance of health providers on the individual, clinic, region, or national level or investigate different indicators of maternal and health. As noted in the quality improvement section, a comprehensive overview of the field of evaluation applied to maternal and child health is beyond the scope of this learning package but additional sources in the Resource section below provide links to sources that offer thorough discussions of these topics.

Evaluation activities using an eRegistry should, at a minimum, address the following steps:

Step 1. Identify an evaluation team

An interdisciplinary team including individuals with diverse experience and skills is best suited to planning and conducting an evaluation.

Step 2. Involve all stakeholders

The success of an evaluation depends, in part, on engaging all relevant stakeholders in the process.

Step 3. Define evaluation scope and plan

Establish whether the focus of the evaluation is on process, effectiveness, or implementation. Clearly define the scope, strategy, approach, key questions, and expected outcomes of the evaluation.

Step 4. Select appropriate evaluation design

Evaluations may involve qualitative or quantitative research designs and may range from randomized controlled trials that require designated control and intervention groups to less formal designs such as quasi-experimental or observational study designs. The study design should take into consideration time, resources, and overall objectives.

Step 5. Implement evaluation plan

For many evaluation designs, the eRegistry provides an easy and accessible database for gathering the relevant data elements. Data from the eRegistry could also be supplemented by other sources of evidence or information as specified in the

evaluation plan. A statistical analysis plan should be in place prior to the analysis phase to guard against data mining.

Step 6. Report evaluation findings

Disseminate evaluation findings and consider how results can be made into actionable recommendations. Ultimately, the lessons learned and reflections from the evaluation process should facilitate change and improvement by focusing on feasibility and utility.

Resources

- *The Six Domains of Health Care Quality*

- *Plan Do Study Act Cycle*

- *The Bamako Initiative*

- *The Lancet Global Health Commission on High Quality Health Systems in the SDG Era*

- *Quality of Maternal Health Care, Maternal Health Task Force*

- *Improving Quality of Maternal and Newborn Care in Low- and Middle-Income Countries, Maternal Health Task Force*

- *WHO Evaluation Practice handbook. Geneva: World Health Organization*

- *WHO Standards for improving quality of maternal and newborn care in health facilities*

- *Registries for Evaluating Patient Outcomes: A User's Guide [Internet]. 3rd edition, Quality Improvement Registries*

- *Registries for Evaluating Patient Outcomes: A User's Guide [Internet]. 3rd edition.*

- *CDC's What we Know about Evaluation Planning*