



Quality Improvement Resources for Epidemiologists

The AMCHP Role

The Association of Maternal & Child Health Programs (AMCHP) is a national resource, partner and advocate for state public health leaders and others working to improve the health of women, children, youth and families, including those with special health care needs.

AMCHP supports state maternal and child health (MCH) programs and provides national leadership on issues affecting women and children.

We work with partners at the national, state and local levels to expand medical homes; provide and promote family-centered, community-based, coordinated care for children with special health care needs; and facilitate the development of community-based systems of services for children and their families.



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Quality Improvement (QI) is the use of deliberate, systematic and continuous processes to achieve measurable improvements in efficiency, effectiveness, performance, accountability, outcomes, and other quality indicators. QI methods were originally developed by business and manufacturing industries but have since been adopted to achieve improvement in health care systems and more recently, public health programs and practices. The National Public Health Improvement Initiative and a national voluntary accreditation system for state, territorial, local and tribal health departments have increased interest in QI among the public health workforce. AMCHP is the practice partner of the National Maternal & Child Health (MCH) Workforce Development Training Center housed at University of North Carolina Gillings School of Global Public Health. The Center is focused on developing training, technical assistance, and coaching opportunities in the field of QI. AMCHP compiled this list of resources to assist epidemiologists in familiarizing with QI, using QI tools, and learning about QI success stories at other state and local health departments.

Background on QI: QI initiatives were adopted by the clinical health care system prior to public health systems. The U.S. Department of Health and Human Services Health Resources and Services Administration (HRSA) provides an overview of QI as it exists in the health care system at hrsa.gov/quality/toolbox/methodology/qualityimprovement/index.html. This resource is also useful for examining different models of QI.

Introduction to QI in Public Health: QI processes used in business, industry, and health care systems also are relevant to public health programs and practices. The following resources provide background, language, definitions and information on national QI efforts through a public health lens.

- The Centers for Disease Control and Prevention, *Performance Management and Quality Improvement: The Public Health Journey* describes how awareness and use of QI in public health has advanced: cdc.gov/stltpublichealth/performance/Journey.html
- In the article, "Why Don Berwick is almost right: How Public Health Quality Improvement Operates within Complex Systems" in the *Journal of Public Health Management Practice*, (2010, 18(1), 70-73), Beitsch, Moran and Duffy describe the advancement of QI in public health and the tools and language used for public health QI initiatives: journals.lww.com/jphmp/Fulltext/2012/01000/Why_Don_Berwick_Is_Almost_Right__How_Public.11.aspx
- The Public Health Foundation (PHF), *QI Quick Guide Tutorial* contains a *QI User Guide and Tutorial* that introduce QI and assist public health practitioners in making quick determinations of which QI resources are appropriate for their initiatives: phf.org/quickguide/LeftNavOnePanel.aspx?Page=Tutorial
- The American Public Health Association, *Quality Improvement in Public Health: It Works!* is a brochure that describes national QI efforts in public health, QI success stories from health departments, and resources to apply QI to public health: apha.org/~media/files/pdf/fact%20sheets/qi_in_ph_it_works.ashx

Resources and tools for practical engagement in QI in public health:

There are a variety of tools and resources that will aid public health professionals in moving through a QI project. The resources below are QI guides and interactive tools that can be used throughout the QI process.

- The National Network of Public Health Institutes, *Public Health Performance*

Improvement Toolkit provides tools and resources for introduction to QI, QI plans and leadership, managing QI collaborative, building a QI culture, data and measurement, and QI tools and frameworks: nnphi.org/tools/public-health-performance-improvement-toolkit-2?view=file&topic=59#Intro%20to%20QI

- The National Association of County & City Health Officials compiled topic-specific QI resources from a variety of organizations and agencies for processes including developing a QI plan and governance structure, providing QI training to staff, selecting and implementing QI projects, and developing a system for performance management: naccho.org/topics/infrastructure/accreditation/quality.cfm
- The Center for Public Health Quality (CPHQ), *QI Toolbox - QI Step-by-Step Guide* moves the user through each phase of a QI project while introducing examples, tools and templates needed for successful QI project completion. centerforpublichealthquality.org/index.php/theqitoolbox/step-by-step-guide

QI Initiatives at State and Local Health

Departments: Over the last decade, state and local health departments have undertaken QI initiatives and produced real-life success stories.

- The January/February 2012, Volume 18, Issue 1 of the *Journal of Public Health Management & Practice* is dedicated to QI in public health and contains examples and case studies of QI projects at state and local health departments. journals.lww.com/jphmp/toc/2012/01000#1791871620
- The CPHQ, *QI Toolbox – QI Project Connection* houses examples of QI projects that state and local health departments have completed under the CPHQ QI 101 training program: centerforpublichealthquality.org/index.php/theqitoolbox/qi-project-profile-tool

QI in Maternal and Child Health: These training tools are targeted specifically to the MCH workforce and aim to enhance QI capacity within the public health workforce.

- MCH Navigator offers a “Training Spotlight” focusing on QI. Public health and MCH specific QI trainings, toolkits, and youtube videos are available at: mchnavigator.org/trainings/quality-improvement-spotlight.php#mchn
- The Public Health Quality Improvement Exchange, funded by the Robert Wood Johnson Foundation, is a searchable database of public health quality initiatives. Users can search for initiatives by keywords which enables finding MCH-specific QI initiatives. phqix.org/

QI Resource for Epidemiologists: The paper cited below with the accompanying abstract may be particularly useful for epidemiologists deciding on measures for QI initiatives.

Randolph G, Esporas E, Provost L, Massie S, Bundy D. (2009). Model for improvement - Part Two: Measurement and feedback for quality improvement efforts. 56(4): 779-798.

Abstract: The public, government, payors and health care professionals increasingly agree that the quality of health care in the United States is in urgent need of improvement. Measurement and feedback are fundamental aspects of QI; thus, national and local health care organizations are paying more attention to the selection and use of quality measures. To date, most of the attention and effort has been directed at developing measures at the national level to compare the performance of physicians and health care organizations, i.e., what is referred to as national performance measures or standards. Little attention has been directed at measurement and feedback to guide QI projects, which represents the frontline of QI work.

A variety of QI models are used in public health practice. Four of them are highlighted here.

- 1 **Lean Model** defines value by what the consumer of the system values. The model maps how value flows to the consumer and focuses on making processes cost effective and time efficient to ensure maximum system competency.
- 2 **Six Sigma Model** is a measurement-based strategy for improving processes and reducing problems. There are two Six Sigma models:
 1. To examine existing processes: DMAIC (define, measure, analyze, improve, control)
 2. To develop new processes: DMADV (define, measure, analyze, design, verify)
- 3 **IHI Breakthrough Series** is a simple QI model with two main parts.
 1. Users address each of the following three questions:
 - What are we trying to accomplish?
 - How will we know that a change is an improvement?
 - What changes can we make that will result in improvement?
 2. Users test and implement changes through the Plan-Do-Study-Act (PDSA) cycle
- 4 **Kaizen** is a long-term, continuous approach to QI that aims to achieve small, incremental changes that will produce noticeable results over time. The Kaizen model involves everyone in a company or organization making changes on a regular basis rather than just a select few in a set period of time.

SOURCE

U.S. Department of Health and Human Services HRSA. Quality Improvement. April 2011. Accessed on 12/11/14. Available at: hrsa.gov/quality/toolbox/508pdfs/qualityimprovement.pdf.

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For up to date QI resources, visit the AMCHP Transformation Station QI page:
amchp.org/Transformation-Station/Quality-Improvement/Pages/Home.aspx