Quality in the Public Health System

Meeting of the Institute of Medicine Committee on Quality Measures for the Healthy People Leading Health Indicators

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Peggy A. Honoré, DHA
Public Health System, Finance & Quality Program
Office of the Assistant Secretary for Health
Peggy.Honore@hhs.gov
Gaps in National Guidelines for PH Quality

- 2001 IOM report focused on health care for individuals and established 6 aims for healthcare quality (safe, timely, equitable, effective, efficient, patient-centered)
- Role of Public Health acknowledged but noted that it was beyond the scope of the study
- Goals and tools for QI in public health historically were less defined than in other sectors of healthcare

HHS Response

Based on recommendations to establish Definitions, Aims, and Priority Areas for Improvement of Quality across all sectors of Healthcare made in 1998 by:

- OASH established a Public Health Quality Forum (PHQF) in April 2008 to establish macro-level framework to promote Quality across all sectors
- Members included Directors of all HHS agencies and designees from key offices along with leaders from ASTHO, NACCHO, NALBOH, APHA, RWJF
Reports

Consensus Statement on Quality in the Public Health System

U.S. Department of Health and Human Services
Office of Public Health and Science
Office of the Assistant Secretary for Health

Public Health Quality Forum

August 2008

Priority Areas for Improvement of Quality in Public Health

U.S. Department of Health and Human Services
Office of the Assistant Secretary for Health

Public Health Quality Forum

November 2010

http://www.hhs.gov/ash/initiatives/quality/index.html
National Framework For Public Health Quality

Definition of Public Health Quality
The degree to which policies, programs, services, and research for the population increase desired health outcomes and conditions in which the population can be healthy.

Public Health Quality Aims
- Population-centered
- Equitable
- Proactive
- Health-promoting
- Risk-reducing
- Vigilant
- Transparent
- Effective
- Efficient

Priority Areas for Improvement of Quality in Public Health
- Population-health Metrics and Information Technology
- Evidence-based Practices, Research, and Evaluation
- Systems Thinking
- Sustainability and Stewardship
- Policy
- Workforce and Education

Vision of Public Health Quality
Building better systems to give all people what they need to reach their full potential for health.
Concept of Quality Characteristics

International Organization of Standards (ISO), defines quality as: A set of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs.

- ISO/IEC, 1998

Aesthetic Characteristics of Quality Drinking Water
- Color
- Taste
- Smell

6 Aims (Characteristics) of Patient Care
Safe          Patient-Centered
Timely        Equitable
Efficient     Effective
Methodologies to Measure Quality in Healthcare Systems

Overall quality of care by State

Commonwealth Fund Global Ranking of Quality in Healthcare Systems

No comparable methods for Measuring Quality in the Public Health System

http://www.ahrq.gov/qual/nhdr11/key.htm

Conceptual Framework to Identify Aims

The role of Public Health described as:

Definitions of Public Health
Public Health Vision
3 Core Functions
10 Essential Services
Operational Definition of a Local Health Department

With optimal improvement in population health as the ultimate goal, what characteristics describe:

The fundamental tactics needed across all sectors to fulfill the role of public health?

Public Health Quality Aims

- Population-centered
- Equitable
- Proactive
- Health-promoting
- Risk-reducing
- Vigilant
- Transparent
- Effective
- Efficient

2. IOM. 1988. The Future of Public Health
4. Public Health Functions Steering Committee. 1994
Public Health Quality Aims

- **Population-centered:** Protecting and promoting health conditions and the health for the entire population
- **Equitable:** Working to achieve health equity
- **Proactive:** Formulating policies and sustainable practices in a timely manner, while mobilizing rapidly to address new and emerging threats and vulnerabilities
- **Health promoting:** Ensuring policies and strategies that advance safe practices by providers and the population and increase the probability of positive health behaviors and outcomes
- **Risk reducing:** Diminishing adverse environmental and social events by implementing policies and strategies to reduce the probability of preventable injuries and illness or other negative outcomes
Public Health Quality Aims

- **Vigilant**: Intensifying practices and enacting policies to support enhancements to surveillance activities (e.g. technology, standardization, systems thinking/modeling)
- **Transparent**: Ensuring openness in the delivery of services and practices with particular emphasis on valid, reliable, accessible, timely, and meaningful data that is readily available to stakeholders, including the public
- **Effective**: Justifying investments by utilizing evidence, science, and best practices to achieve optimal results in areas of greatest need
- **Efficient**: Understanding costs and benefits of public health interventions and to facilitate the optimal utilization of resources to achieve desired outcomes
## The Donabedian Model For Assessing Quality

<table>
<thead>
<tr>
<th>Measure</th>
<th>Quality Dimension</th>
<th>Public Health Quality Aim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of clients receiving HIV/AIDS services at county contracted medical provider sites who are screened for ADAP</td>
<td>Process</td>
<td>Proactive</td>
</tr>
<tr>
<td>Proportion of confirmatory test results for reportable diseases that hospital and other private labs reported to the Department of Health Services</td>
<td>Process</td>
<td>Vigilant Transparent</td>
</tr>
<tr>
<td>Proportion of children who have all recommended immunizations performed at age 24 months</td>
<td>Outcome</td>
<td>Health-promoting Risk-reducing Effective</td>
</tr>
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</table>
## Evidence of Quality Gaps

<table>
<thead>
<tr>
<th>Quality Gaps</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Foodborne Illness Costs U.S. $152 Billion Annually</strong></td>
<td>Scharff, R. Health-Related costs from Foodborne Illness in the United States. March 2010. Produce Safety Project at Georgetown University</td>
</tr>
<tr>
<td><strong>Lack of available community-level health data on minority, ethnic, rural populations to properly assess and monitor health of these populations</strong></td>
<td>Honoré et al. A Framework for getting quality into the public health system. 2011. Health Affairs 30 No. 4 (2011): 737-745</td>
</tr>
<tr>
<td><strong>Many areas of public health have not fully utilized or disseminated a large amount of scientific evidence (e.g., obesity prevention, teen pregnancy prevention)</strong></td>
<td>IOM. Bridging the evidence gap in obesity prevention: A framework to inform decision making. 2010.</td>
</tr>
</tbody>
</table>
Evidence of Quality Gaps

Density of Fast Food Restaurants in low income neighborhoods: Are fast food restaurants an environmental risk factor for obesity?

Robert W Jeffery, Judy Baxter, Maureen McGuire and Jennifer Linde

Emergence of the Fast Food Industry

1950s

Obesity Surveillance

1985

Research on the Density of Fast Food Restaurants

2000s

Fast Food Zoning as an obesity reduction strategy
<table>
<thead>
<tr>
<th>Focus of Research</th>
<th>Reference</th>
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</thead>
<tbody>
<tr>
<td>Population based surveillance system in a large multicenter primary care network identified patients overdue for mammography screening. The interventional study showed that providers successfully contacted 63% of over 3,000 patients at risk.</td>
<td>HHS/ONC HIT Policy Committee Meaningful Use Workgroup for Comments Regarding Meaningful Use Stage 2</td>
</tr>
<tr>
<td>A computer based smoking cessation program designed after extensive review of the literature on the barriers associated with such a program, was found to be effective, inexpensive and required little time or skill from staff.</td>
<td></td>
</tr>
<tr>
<td>Study showed feasibility and reliability of EHR based chronic kidney disease (CKD) registry composed of 57,276 patients in accurately relaying demographics and most comorbidities when compared to individual EHR chart review. Study concluded that such as registry has the potential to improve quality of care in this patient population and contribute to the development of a national CKD surveillance project.</td>
<td></td>
</tr>
<tr>
<td>Cost-benefit analyses have shown potentially substantial savings in both human and economic terms if improved alerting methods can expedite a public health response to an outbreak by even a couple of days.</td>
<td></td>
</tr>
</tbody>
</table>
Interrelationship of the Aims: Surveillance (Vigilant) that can inform about Reducing-risks

Structure
Organizational

Process
Vigilant

Outcomes
Effective Risk-reducing

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<tr>
<td>Monitor stages of HIV and behaviors that places others at risk for infection</td>
<td>Dawning Answers: How the HIV/ AIDS Epidemic has helped to Strengthen Public Health; Edited by: Ronald O. Valdiserri</td>
</tr>
<tr>
<td>HIV Testing Survey to assess risky behaviors</td>
<td></td>
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<tr>
<td>Drug Abuse Warning Network (DAWN) to monitor trends in drug overdoses</td>
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Evidence Linked to Quality Aims: Risk-reducing

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<tr>
<th>Focus of Research</th>
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<tr>
<td>(Research) demonstrates the impact of moving “upstream” by managing known risk factors to prevent illness onset, and moving even further upstream by addressing behaviors and living conditions linked to the initial development of these risk factors</td>
<td>Jack Homer, Gary Hirsch and Bobby Milstein. System Dynamics Review Vol. 23, No. 2/3, (Summer/Fall 2007): 313–343.</td>
</tr>
<tr>
<td>Models suggest that large reductions in CHD mortality are feasible by either</td>
<td>Ford ES, Capewell S. 2011. Annual Review of Public Health</td>
</tr>
<tr>
<td>– Improving the distribution of risk factors in the population, or</td>
<td></td>
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<tr>
<td>– Raising the % of patients receiving evidence-based treatments</td>
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## Evidence Linked to Quality Aims: Proactive

<table>
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<th>Focus of Research</th>
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<tbody>
<tr>
<td>Population-based tobacco treatment: Proactive Care Intervention Model</td>
<td>Fu et al, BMC Public Health 2012, 12</td>
</tr>
<tr>
<td>Using the telephone to improve health behavior and health service delivery</td>
<td>McBride and Rimer. Patient Education and Counseling 37 (1999)</td>
</tr>
<tr>
<td>– Analysis of proactive telephone delivered interventions compared to reactive interventions</td>
<td></td>
</tr>
<tr>
<td>– Analysis of proactive approach to counselor advice</td>
<td></td>
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<tr>
<td>– Analysis of a program designed to Proactively identify gaps in care</td>
<td></td>
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<tr>
<td>– Analysis of a proactive intervention aimed at informing and motivating women to take folic acid before becoming pregnant</td>
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## Evidence Linked to Quality Aims:
**Health-promoting, Effective, Efficient**

<table>
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<th>Focus of Research</th>
<th>Reference</th>
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<tr>
<td>– Intervention: 4-year <em>mass media program</em> to prevent smoking among adolescents (age 15-18) in 4 US cities</td>
<td></td>
</tr>
<tr>
<td>– Costs: Development and broadcasting the <em>mass media campaign</em>: $796,436</td>
<td></td>
</tr>
<tr>
<td>– Consequences: 1023 smokers averted</td>
<td></td>
</tr>
<tr>
<td>– CE ratio: $696/ life-year gained</td>
<td></td>
</tr>
<tr>
<td><strong>National <em>High Blood Pressure Education Program</em> designed to translate the results of basic and clinical research to medical practice through a program of education for the public, patients and health professionals.</strong></td>
<td>Roccella EJ, Horan MJ. The National High Blood Pressure Education Program: Measuring Progress and Assessing Its Impact. 1988</td>
</tr>
</tbody>
</table>
Value of Integration of Public Health and Healthcare Quality to achieve:

Better Care
Better Health
Lower Costs
Interdependence of research innovation, clinical practice implementation and public health advances for achieving greater health outcomes

Adapted from the paper, ‘Triangulating on Success: Innovation, Public Health, Medical Care, and Cause-Specific US Mortality Rates Over a Half Century (1950-2000)’
Recommendation in 1998 Report to Identify Quality Priorities
Framework

Priority Areas

- Population Health Metrics & IT
- Evidence-Based Practices, Research, and Evaluation
- Systems Thinking
- Stewardship and Sustainability
- Policy
- Workforce and Education
**Driver Diagram**

**Outcome**

**Public Health Primary Drivers of Quality**

- Evidence-Based Practices
- Policy
- Systems Thinking
- Sustainability

**Public Health Secondary Drivers of Quality and Corresponding Quality Measures**

**AIM: RISK-REDUCING AND HEALTH PROMOTING**

**Intervention:** Adult immunization programs

**Quality Measure:**
- Adults age 40 and over with diagnosed diabetes who received a flu shot in the last 12 months

**AIM: VIGILANT**

**Intervention:** Surveillance and tracking

**Quality Measure:**
- Number of Tribes, States and the District of Columbia that have public health surveillance and health promotion programs for people with disabilities and caregivers

**AIM: PROACTIVE**

**Intervention:** Program to increase excise tax

**Quality Measure:**
- Number of states (DC and the Federal Government) that increase the tax on cigarettes by $1.50 over the decade from 2010 to 2020*

**Intervention:** Promoting non smoking workplaces and campuses

**Quality Measure:**
- Proportion of persons covered by indoor worksite policies that prohibit smoking*

**AIM: RISK REDUCING**

**Intervention:** Blood pressure screening

**Quality Measure:**
- Proportion of persons with chronic kidney disease who have elevated blood pressure

*Measures are taken from the topic area of Tobacco Use within Healthy People 2020*
Influence of Quality on the Chronic Care Model

Community Resources and Policies
- Public Health Quality
  - Population-centered
  - Effective
  - Equitable
  - Vigilant
  - Proactive
  - Risk-Reducing
  - Transparent
  - Health-promoting
  - Efficient

Health Systems Organization of Health Care
- Self-Management Support
- Delivery System Design
- Decision Support
- Clinical Information Systems

Patient-Centered
- Timely
- Efficient
- Safe
- Equitable
- Effective

Services

Improved Outcomes
- Informed, Empowered Patient and Family
- Productive Interactions
- Prepared, Proactive Practice Team

*Adapted from the MacColl Institute and expanded to include quality by the Office of the Assistant Secretary for Health
# Charge to Committee

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>Leading Health Indicator</th>
<th>Quality Measure</th>
<th>Quality Aim</th>
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<tbody>
<tr>
<td>Tobacco</td>
<td>● Adults who are current cigarette smokers</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>● Adolescents who smoked cigarettes in the past 30 days</td>
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Tobacco Reduction Driver Diagram

**Outcome**

**Public Health Primary Drivers of Quality**

**Public Health Secondary Drivers of Quality and Corresponding Quality Measures**

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**Reduction in tobacco use**

- Evidence-Based Practices
- Policy
- Systems Thinking

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**AIM: POPULATION-CENTERED AND HEALTH PROMOTING**

**Intervention:** Social marketing and PSA campaigns

**Quality Measure:** Proportion of adolescents and young adults who are exposed to tobacco advertising and promotion*

**AIM: PROACTIVE**

**Intervention:** Program to increase excise tax

**Quality Measure:** Number of states (DC and the Federal Government) that increase the tax on cigarettes by $1.50 over the decade from 2010 to 2020*

**Intervention:** Promoting non smoking workplaces and campuses

**Quality Measure:** Proportion of persons covered by indoor worksite policies that prohibit smoking*

**AIM: HEALTH PROMOTING & RISK REDUCING**

**Intervention:** Promoting no smoking during pregnancy

**Quality Measure:** Smoking cessation during pregnancy*

**AIM: RISK REDUCING**

**Intervention:** Advocating for policies that penalize retailers that sell to minors

**Quality Measure:** Number of states that report an illegal sales rate to minors of 5% or less in compliance checks*

**AIM: EFFECTIVE AND HEALTH PROMOTING**

**Intervention:** Provide incentives (including cash) to stop smoking to chronically/severely mentally ill patients who smoke cigarettes

**Quality measure:** Reduction in number of chronically/mentally ill patients who smoke

* Measures are taken from the topic area of Tobacco Use within Healthy People 2020
Thank You

Building better systems to give all people what they need to reach their full potential for health

Howard K. Koh
Assistant Secretary for Health

Visit us at:
http://www.hhs.gov/ash/initiatives/quality/index.html