Quality in the Public Health System

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Objectives

- Introduce the HHS Public Health Quality framework
- Illustrate the need for a coordinated systems-approach to improve quality
- Discuss how to align surveillance functions with public health quality concepts

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

Illustrations of Quality Characteristics

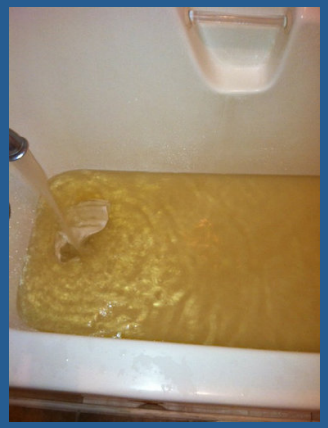
Characteristics of Water Quality

- Microbial (bacteria and algae)
- Turbidity
- Corrosiveness (pH and alkalinity)
- Disinfectant
- Chemical (inorganic and organic

6 Aims (Characteristics) of Patient Care

Safe
Timely
Efficient
Patient-Centered
Equitable
Effective

Greenville, MS - Brown Water Problem



City of Greenville, MS
2009 Drinking Water Quality Report

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

Gaps in PH Quality

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, equity, 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

Quality Gap Illustrations

Foodborne Illness Costs U.S. $152 Billion Annually

Science Daily (Mar. 3, 2010)

$77.7 billion Economic Burden from Health Losses Due to Foodborne Illness

Scharff, J Food Protect, Vol. 75, No. 1, 2012

Between 2003 and 2006 the combined costs of health inequalities and premature death in the United States were $1.24 trillion.

LaVeist, Gaskin, & Richard, PhD, 2009

Data limitations hinder targeted improvement efforts

National Healthcare Disparities Report, 2008

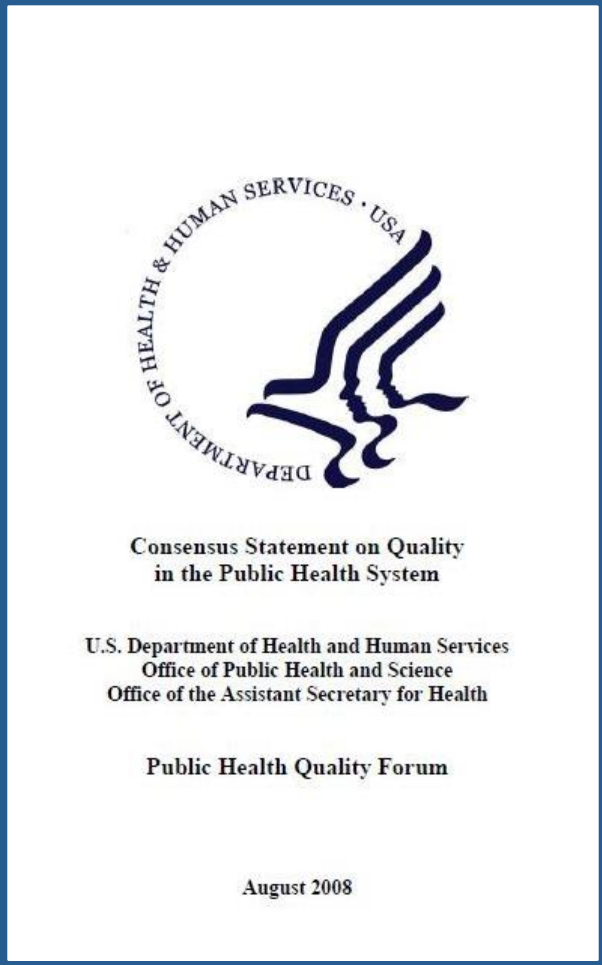
HHS Response

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

PRESIDENT'S ADVISORY COMMISSION ON **Consumer Protection** AND **Quality** IN THE **Health Care Industry**

- 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



DEPARTMENT OF HEALTH & HUMAN SERVICES · USA

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

Macro Level Framework

Definition to describe the meaning of public health quality

Aims as aspirational **characteristics** to guide quality goals throughout all aspects and sectors (*i.e., program design and implementation, management and governance, policy, research, education, healthcare) when fulfilling a public health mission*

Priorities to synergistically coordinate and integrate strategies to advance improvements in quality and population health outcomes

Vision to define what public health must do regarding quality (2010)

Public Health System

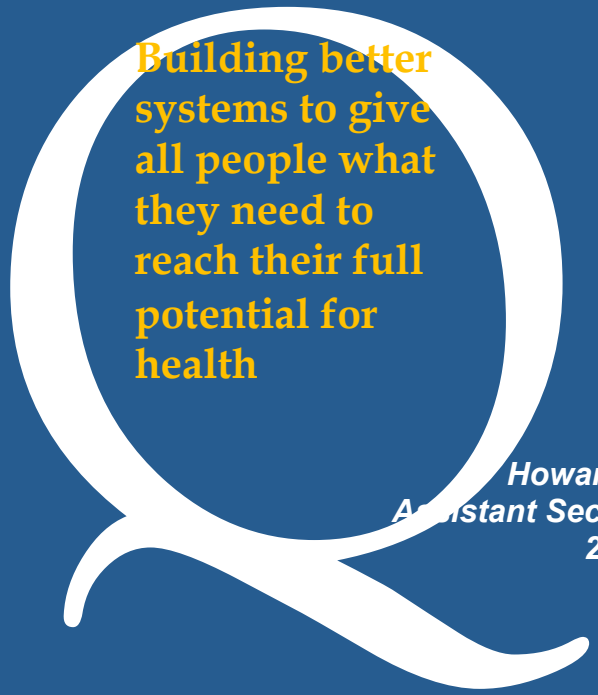
Definition and Vision of Public Health Quality

Definition of Public Health Quality

Quality in public health is 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

PHQF, 2008

Vision for Public Health Quality



Howard K. Koh
Assistant Secretary for Health
2010

Methodologies to Measure Quality in Healthcare Systems

Commonwealth Fund Global Ranking of Quality in Healthcare Systems

Country Rankings
1.00–2.33
2.34–4.66
4.67–7.00

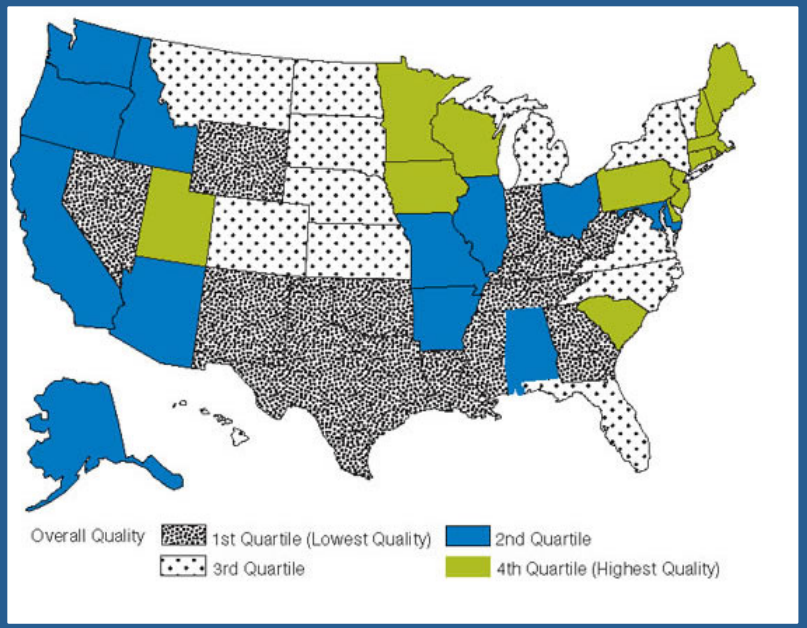
	AUS	CAN	GER	NETH	NZ	UK	US
OVERALL RANKING (2010)	3	6	4	1	5	2	7
Quality Care	4	7	5	2	1	3	6
Effective Care	2	7	6	3	5	1	4
Safe Care	6	5	3	1	4	2	7
Coordinated Care	4	5	7	2	1	3	6
Patient-Centered Care	2	5	3	6	1	7	4
Access	6.5	5	3	1	4	2	6.5
Cost-Related Problem	6	3.5	3.5	2	5	1	7
Timeliness of Care	6	7	2	1	3	4	5
Efficiency	2	6	5	3	4	1	7
Equity	4	5	3	1	6	2	7
Long, Healthy, Productive Lives	1	2	3	4	5	6	7
Health Expenditures/Capita, 2007	$3,357	$3,895	$3,588	$3,837*	$2,454	$2,992	$7,290

Note: * Estimate. Expenditures shown in $US PPP (purchasing power parity).
Source: Calculated by The Commonwealth Fund based on 2007 International Health Policy Survey; 2008 International Health Policy Survey of Sicker Adults; 2009 International Health Policy Survey of Primary Care Physicians; Commonwealth Fund Commission on a High Performance Health System National Scorecard; and Organization for Economic Cooperation and Development, *OECD Health Data, 2009* (Paris: OECD, Nov. 2009).

THE COMMONWEALTH FUND

http://www.commonwealthfund.org/~/media/Files/Publications/Fund%20Report/2010/Jun/1400_Davis_Mirror_Mirror_on_the_wall_2010.pdf

Overall quality of care by State



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

Aims for Public Health Quality

HHS established 9 Aims (Characteristics) for Improvement of Quality in Public Health. Identification responds to recommendations in the 1998 President's 'Committee on Consumer Protection and Quality in the Health care Industry'

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?

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

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

Alignment of Public Health Quality Aims to Dimension of Quality

Interrelationship of the Aims: Surveillance (**Vigilant**) that can inform about **Reducing-risks**

- Monitor stages of HIV and behaviors that places others at risk for infection Buehler, James W. 2001
- HIV Testing Survey to *assess risky behaviors*
- Drug Abuse Warning Network (DAWN) to *monitor trends in drug overdoses*
- Risk of cervical cancer higher among women with HIV

Framework to Identify Priority Areas for Improvement of Quality in Public Health

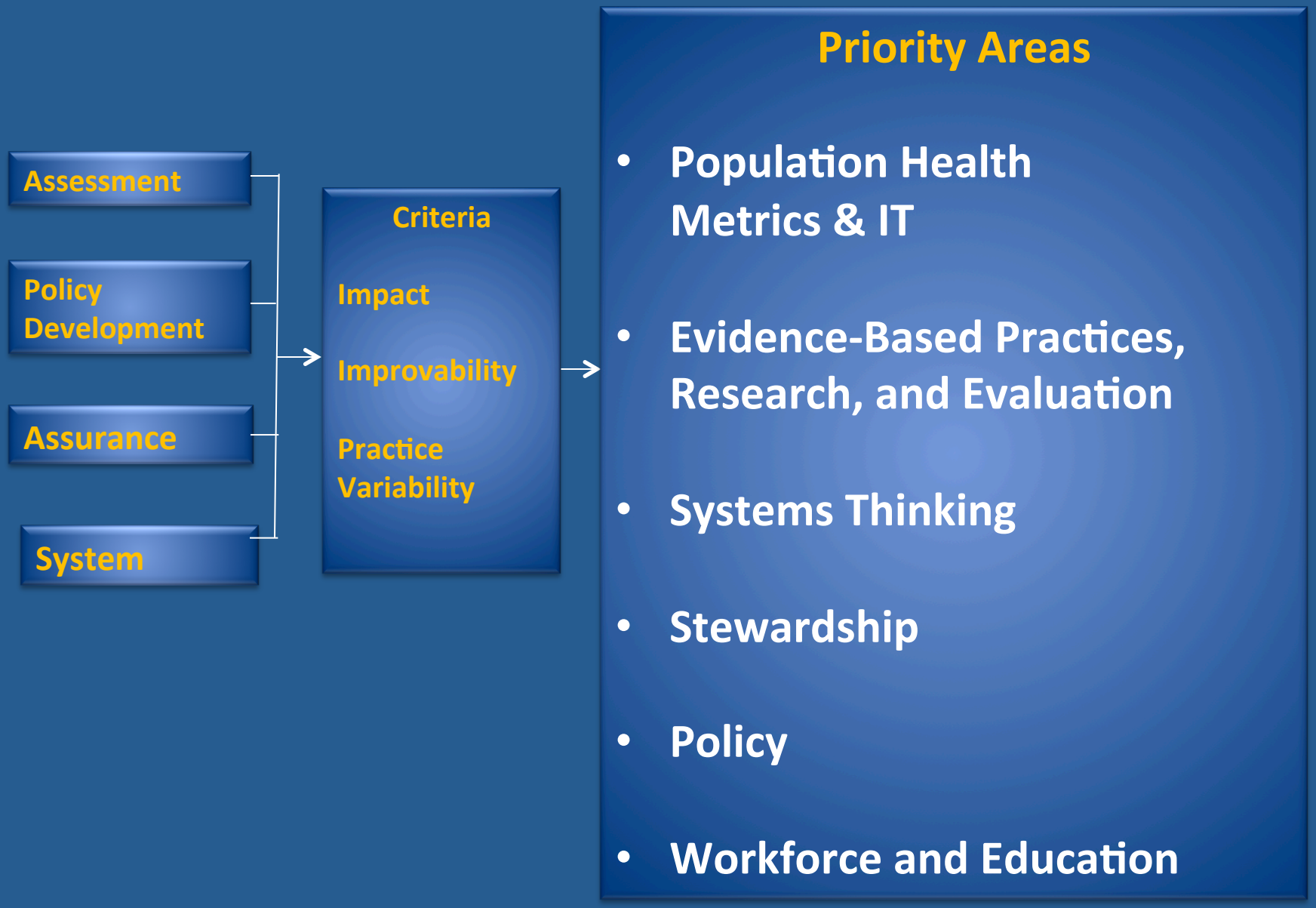
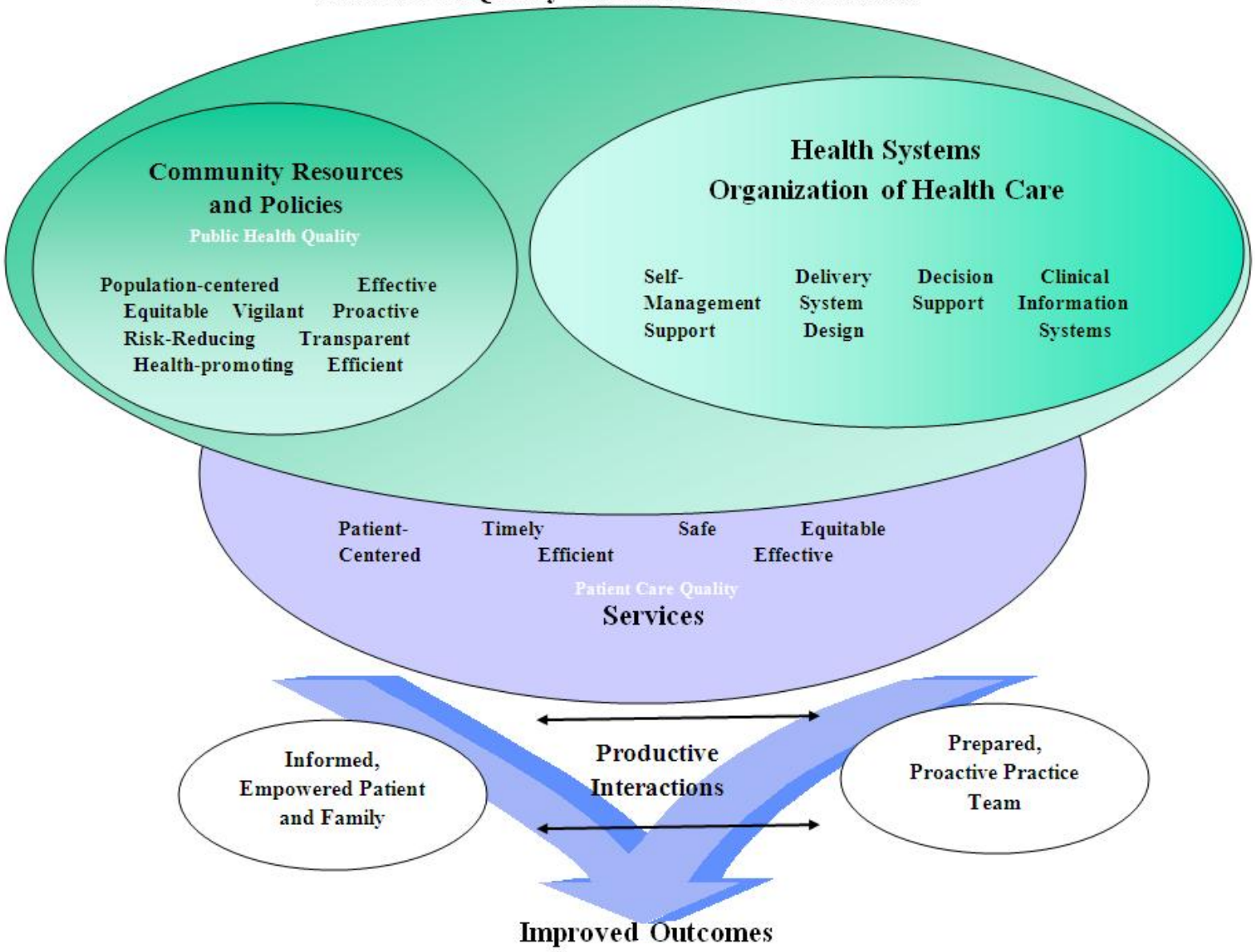


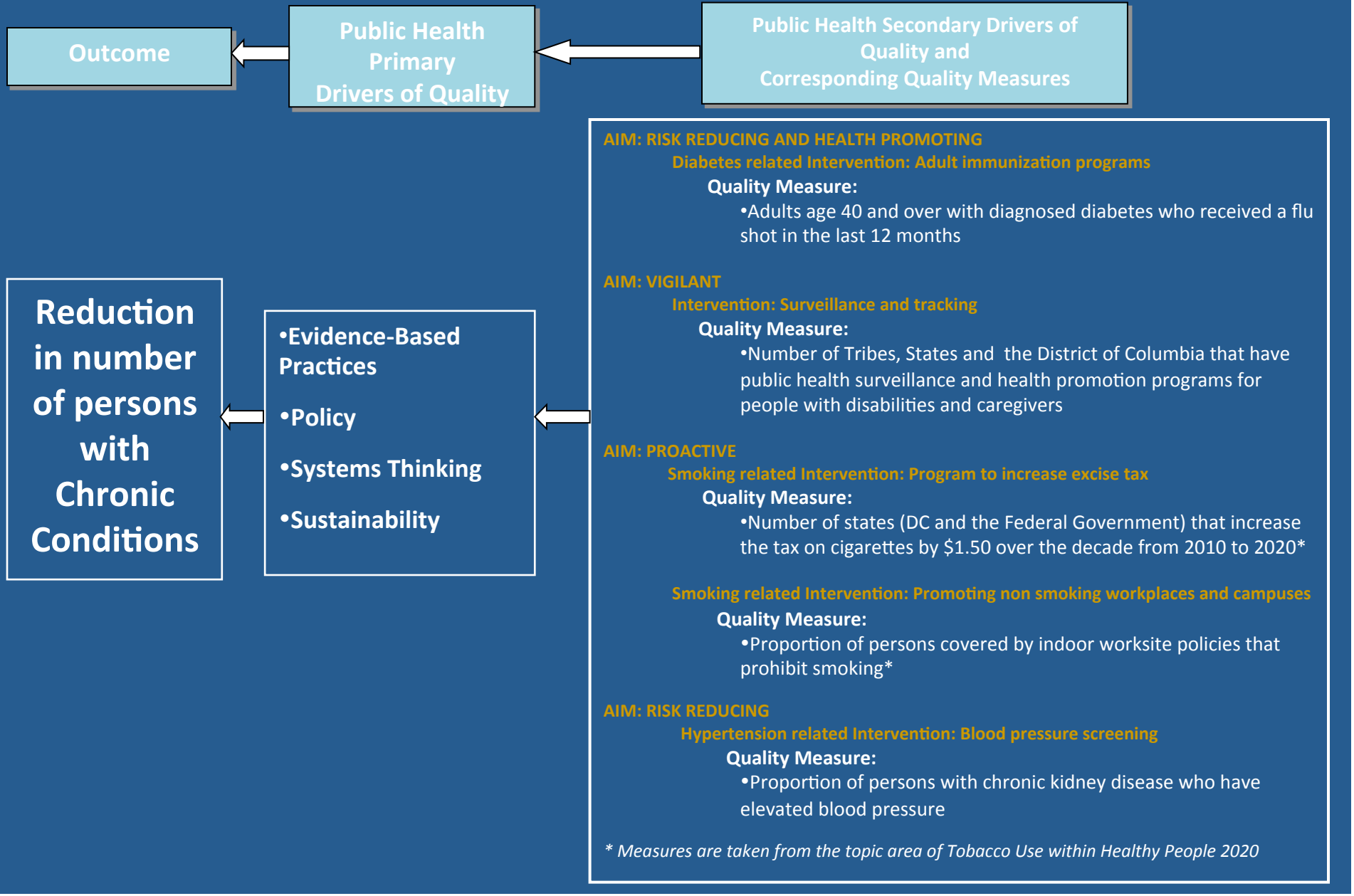
Illustration from Health Settings

Influence of Quality on the Chronic Care Model*



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

Chronic Disease Prevention Driver Diagram



Evidence Linked to Quality Aims:
Vigilant and Population-centered

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.

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.

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.

Implementation of a web-based laboratory information system to treat multi-drug resistant TB patients in Peru greatly improved timely access to lab results and user satisfaction. The system expanded to serve 3.1 million patients at a relatively low cost.

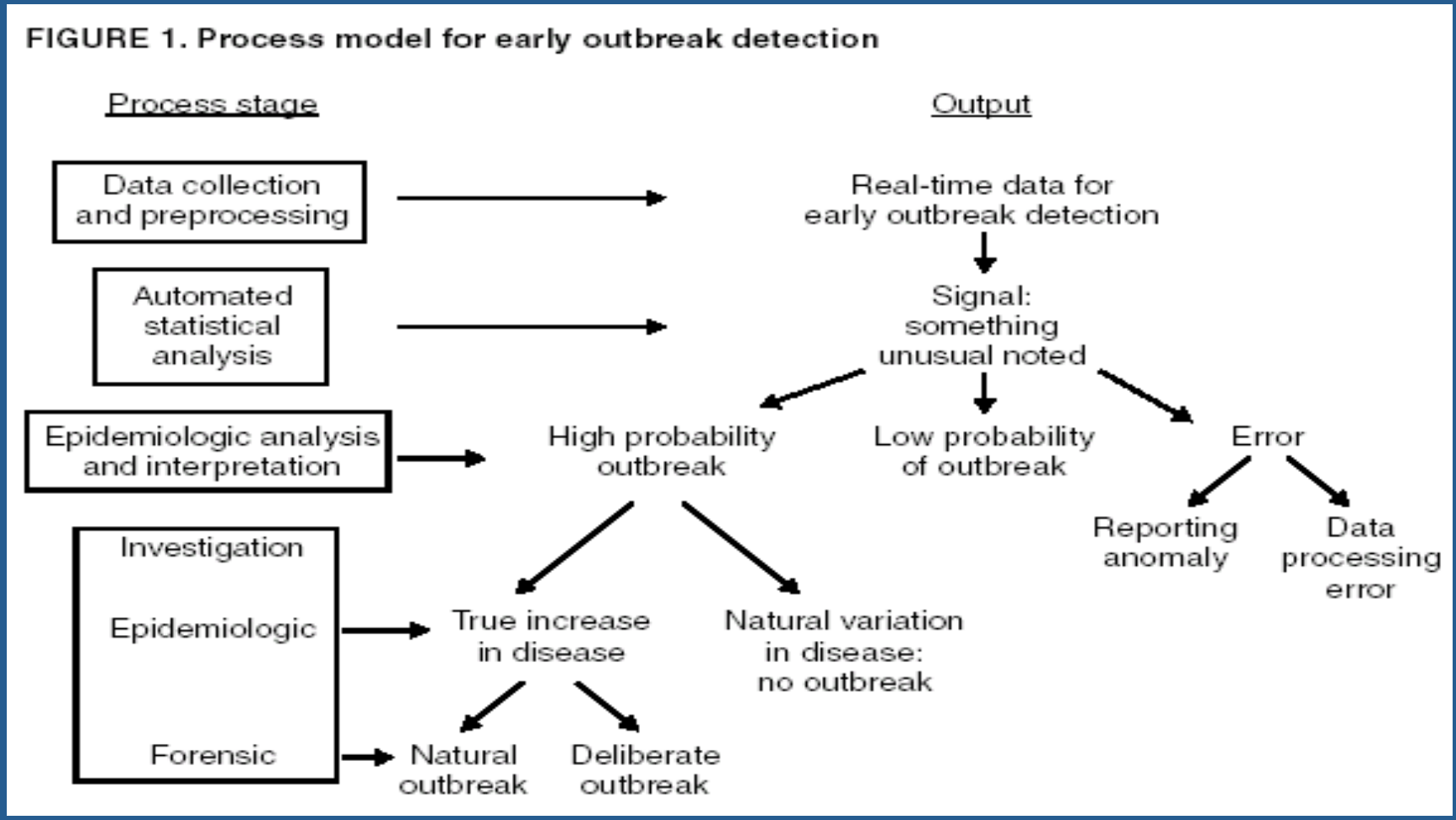
Evidence Linked to Quality Aims: Proactive

Focus of Research	Reference
Population-based tobacco treatment; study designed of a randomized control trial. – Proactive care intervention model	Fu et al, BMC Public Health 2012, 12
Using the telephone to improve health behavior and health service delivery – Analysis of proactive telephone delivered interventions compared to reactive interventions	McBride and Rimer. Patient Education and Counseling 37 (1999
Cancer Prevention Counseling on Telephone Helplines – Analysis of proactive approach to counselor advice	Anderson et al. Public Health reports. May-June 1992, Vol 107, No 3
Proactive Office Encounter: A Systematic Approach to Prevention and Chronic Care at Every Patient Encounter – Analysis of a program designed to Proactively identify gaps in care	Kanter, et al. The Permanente Journal. Fall 2010. Vol 14 No 3
Ten years after the Dutch public health campaign on folic acid: the continuing challenge. - Analysis of a proactive intervention aimed at informing and motivating women to take folic acid before becoming pregnant	De Walle et al. Eur J CLin Pharmacol (2008) 64:539-543

MMWR

May 7, 2004 / 53(RR05);1-11

Framework for Evaluating Public Health Surveillance Systems for Early Detection of Outbreaks



Quality Characteristics of Vigilant, Proactive, Risk Reducing?

MMWR™

July 27, 2001 / 50(RR13);1-35

Updated Guidelines for Evaluating Public Health Surveillance Systems Recommendations from the Guidelines Working Group

Revisit for links to Quality Characteristics

Data from a public health surveillance system can be used to:

- Guide immediate action for cases of public health importance;
- Measure the burden of a disease (or other health-related event), including changes in related factors, the identification of populations at high risk, and the identification of new or emerging health concerns;
- Monitor trends in the burden of a disease (or other health-related event), including the detection of epidemics (outbreaks) and pandemics;
- Prioritize the allocation of health resources;
- Describe the clinical course of disease;

Revisit for links to Quality Priority Areas

Data from a public health surveillance system can be used to:

- Guide the planning, implementation, and evaluation of programs to prevent and control disease, injury, or adverse exposure;
- Evaluate public policy;
- Detect changes in health practices and the effects of these changes;
- Provide a basis for epidemiologic research.

How do the Public Health Quality Aims change the way we should look at Surveillance Systems?

- Current System Attributes:
  --- Simplicity
  --- Flexibility
  --- Data quality
  --- Acceptability
  --- Sensitivity
  --- Predictive value positive
  --- Representativeness
  --- Timeliness
  --- Stability

Can this be Expanded to Look Beyond *Data* Quality to include SYSTEM Characteristics of Quality?

A public health surveillance system is useful if it contributes to **the prevention and control of adverse health-related events**. In addition, **data** from a surveillance system can be useful in contributing to **performance measures** , including **health indicators** that are used in **needs assessments and accountability systems**

Does the system:

- Detect diseases, injuries, or adverse or protective exposures of public importance in a timely way to permit accurate diagnosis or identification, prevention or treatment, and handling of contacts when appropriate?
- Provide estimates of the magnitude of morbidity and mortality related to the health-related event under surveillance, including the identification of factors associated with the event?
- Detect trends that signal changes in the occurrence of disease, injury, or adverse or protective exposure, including detection of epidemics (or outbreaks)?
- Permit assessment of the effect of prevention and control programs?
- Lead to improved clinical, behavioral, social, policy, or environmental practices?
- Stimulate research intended to lead to prevention or control?

Illustrations of Surveillance Systems and Alignment to Quality Aims and Priority Areas

- National Addictions Vigilance Intervention and Prevention Program (NAVIPPRO).

  a scientific, comprehensive risk management program for scheduled therapeutics for monitoring prescription drug abuse

  Pharmacoepidemiology and drug safety. 2008; 17: 1142-1154

- Chronic Kidney Disease Registry =

  helps to identify and track various aspects of CKD and promote research to improve quality of care

  Clinical Journal if the American Society of Nephrology6: 40-49, Jan 2011

- Foodborne Diseases Active Surveillance Network

  surveillance and investigation of foodborne disease in the US to measure the burden and improvements in food safety

  CID 2007:44 (1 March) Food Safety

- Surveillance systems based on HIV case reporting

  contact tracing programs to warn and protect those at risk of infection

  Dawning Answers. Ron Valdiserri 2003. Oxford University Press

Moving Forward

MU Population and Public Health Workgroup	Aims
Measure: Successful ongoing submission of electronic reportable laboratory results from Certified EHR Technology to public health agencies for the entire EHR reporting period as authorized.	Risk reducing - Diminishing the probability of preventable illness or negative outcomes Vigilant - Enhancing surveillance with technology
EP/EH Measure: Successful ongoing submission of electronic syndromic surveillance data from Certified EHR Technology to a public health agency for the entire EHR reporting period	Vigilant - Enhancing surveillance with technology
Measure: Documentation of successful electronic transmission of standardized healthcare acquired infection reports to the NHSN from the Certified EHR Technology.	Vigilant – Enhancing surveillance with technology Effective – Evidence is mounting that the HAI registries are Effective in reducing HAI rates
EP/EH Measure: Successful ongoing submission of electronic syndromic surveillance data from Certified EHR Technology to a public health agency for the entire EHR reporting period	Vigilant – Enhancing surveillance with technology
Measure: Attestation of successful electronic transmission of standardized adverse event reports to the FDA/CDC from the Certified EHR Technology.	Vigilant – Enhancing surveillance with technology Health Promoting – ensuring strategies that advance safe practices by providers

Efficiency of Surveillance (Vigilant)

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.

Howard S. Burkom,
Development, Adaption, and Assessment of Alerting Algorithms for Biosurveillance
Johns Hopkins APL Technical Digest, Volume 24, No. 4 (2003)

Provide input at the

ISDS Annual Conference

Public Health Quality Roundtable

San Diego - December 4, 2012

Thanks

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