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**HIT Policy Committee
Meaningful Use Workgroup**

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Panel 3: Potential areas for HIT Policy Committee consideration: Where should the committee focus its attention to support MU measures and criteria that complement the public health mission?

Biography

James W. Buehler, MD is the Acting Director of the Public Health Surveillance Program Office at CDC. From 1981-2002, he served as a medical epidemiologist at CDC, where he worked in the areas of general field epidemiology, maternal and child health, HIV/AIDS, and, for a brief period in 2001, Anthrax. His work in public health surveillance has spanned analysis, system development and management, ethics, and collaboration with program managers and community advocates. In 2002, he joined the faculty of the Rollins School of Public Health at Emory University as a Research Professor in the Department of Epidemiology, where his research interests centered on public health capacities to detect and respond to public health emergencies and the field of public health systems research. In 2009, he returned to CDC to coordinate the development of a new system for monitoring emergency department visits for influenza-like illness, as part of the national response to the H1N1 pandemic, before assuming his current position in 2010.

1. What policy, legal and/or technical issues do you perceive as barriers to getting to improved population health outcomes?

Policy: Functions represented in current population health measures represent relatively well-established public health functions, where state and local health departments have made substantial (albeit varying) levels of investment in automating interfaces between healthcare providers and public health agencies:

Syndromic surveillance has been increasingly developed by state and local health departments since 2001. A survey of state health departments conducted in 2007 indicated that >80% of state health departments conduct syndromic surveillance, and in some areas where the state is not involved in conducting syndromic surveillance, local health departments in large urban centers conduct syndromic surveillance. Nonetheless, penetration of syndromic surveillance practice is uneven in various regions of the country thereby limiting regional and national representativeness and geographic coverage of situation awareness capability.

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- Electronic laboratory reporting, which is a key part of notifiable disease surveillance
- Immunization Registries

Moving into new areas of automation (and beyond uses of annual data sources such as state-wide hospital discharge record systems) for chronic diseases is a newer domain, and might have a less clearly articulated link to public health functions. Such connections have been explored and developed in some settings and resulting policies, but additional efforts are needed to articulate public health program functions and attendant information needs.

Legal:

Systems that involve collection of data on all patients in certain care settings (e.g., syndromic surveillance) are relatively novel compared with more traditional public health approaches of focusing on specific conditions, either as part of required disease reporting or investigation of clusters or outbreaks that come to public health attention. Broader information sharing, such as that embodied by syndromic surveillance, has been considered within the domain of PH authorities, but this may be challenged and require re-visiting of PH laws.

Respecting privacy and assuring the confidentiality of the data public health agencies are entrusted to hold are long-standing priorities for public health officials. The automation of surveillance and the use of EHRs casts these historical concerns in a new light.

Technical: Aside from technical barriers inherent in using automated information systems to prompt identification of individual patients with cases of disease of public health concern or statistically aberrant disease trends of public health concern, there are substantial variations in use of EMRs and in capacity of health department staff to

exploit fully technology potentials. In addition, it would be a mistake to assume that technology can replace human interactions in conducting disease surveillance, and technological capacities need to be developed in tandem with human capacities.

Public health workforce limitations might restrict our ability to fully achieve improved population health outcomes. State health departments will be required to receive, manage, analyze, interpret, and disseminate multiple data streams and increasing amounts of health information to fully realize improved population health. Epidemiologic, surveillance, analytic data management, information technology, informatics, health services research and applied clinical quality improvement skills will be needed in health departments to fulfill their assessment and assurance functions.

In addition, the variance in each state requiring the use of LOINC and SNOMED codes in HL7 v2.5.1 for ELR has technical limitations. It will be important to provide data providers (e.g., EHR, Hospital System, and LIS) a means to access this type of information to support electronic messaging. The information would include what is reporting in each jurisdiction, case definition, algorithms for case identification, and reporting requirements including LOINC and SNOMED codes.

2. Are there any specific approaches to data standards, aggregation and/or infrastructure that would help achieve better population health outcomes?

Structured, unambiguous case definitions and preventive healthcare service indicators would be beneficial. In practice, depending on the context of a particular surveillance system and varying levels of detail or specificity in source data, flexibility might be needed. For example, multiple systems that track influenza employ various criteria, from the relatively non-specific criteria used to monitor “influenza-like illness” to more specific laboratory-based criteria for monitoring the circulation of specific influenza strains. Ideally, this means that the textual descriptions of case definitions and indicators should be fully-specified and de-constructed into their component parts so computerized algorithms can assist in case identification and classification, e.g., clinical findings (e.g., express as SNOMED), lab findings (express as LOINC & SNOMED), epidemiological information (expressed as algorithms or SNOMED...), and health services (e.g., expressed as CPT codes).

Regarding infrastructure, as mentioned above, new skills in analytic data management, informatics, information technology, health services, and clinical quality improvement will be needed by state and local public health departments to fully realize improvements in population health.

3. How should PH contribute to the concept of a learning health system?

Development of scenarios or use cases illustrating how the public health system uses health outcome information and preventive healthcare services information to do its prevention and control work could be used to engage the healthcare sector regarding the rationale for the population health and clinical quality indicator meaningful use criteria. Certainly, the healthcare sector should receive surveillance and preventive healthcare services monitoring information generated from data reported from the healthcare sector. The public health functions of assessment and assurance should be communicated clearly to the healthcare sector which should be engaged to determine how data can be used more effectively to achieve improved population health improvement.

Public Health should increase workforce capacity to conduct performance measurement and quality improvement and increase its commitment to participation in the National Public Health Performance Standards Program whose mission is “to improve the quality of public health practice and performance of public health systems.” The healthcare sector is increasingly pursuing performance measurement and quality improvement and it is critical that the public health sector identify areas to improve the effectiveness and efficiency of our actions to improve population health.

4. What future state might we envision as public health agencies gain access to population health information to drive improved health outcomes?

Clinical measures required for MU are important for public health practitioners to monitor the impact of their programs, particularly programs aimed at preventing chronic diseases. Clinical measures required by MU will allow public health practitioners to assess where to target their messages about the importance of these prevention activities to improve population health. Clearly defined consensus (across public health and healthcare sectors) metrics are necessary for monitoring population health and healthcare services

Some examples of what this future state might look like are:

- Improved understanding across public health and healthcare sectors of the shared and distinct goals and objectives of improved patient and population health monitoring.
- Transparent and sustainable processes and policies to support data interchange across public health and healthcare sectors in support of improved patient outcomes and population health.
- Improved population health as a result of effective use of health information for performance monitoring and quality improvement.
- Enhanced ability to identify health disparities in the community and monitor prevention efforts to address those disparities.
- Improved understanding of community health status and availability of clinical preventive services across the public health and healthcare sectors and among the general public.