Judith Sparrow
United States Department of Health & Human Services
Office of the National Coordinator for Health IT
330 C Street, SW, Suite 1104
Washington, DC 20201

Email: judy.sparrow@hhs.gov

HIT Policy Committee
Meaningful Use Workgroup
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Panel 2: Experiences and current status of MU-like projects: How do governmental public health agencies use MU-like criteria or measures to achieve population health?

Biography

Nedra Garrett is the Acting Director for the Division of Informatics Practice, Policy & Coordination (DIPPC) in the Public Health Informatics & Technology Program Office at the CDC. As Director of DIPPC, she is responsible for the Public Health Information Network, Health Information Exchanges, Public Health Informatics Centers of Excellence, Public Health-Clinical Decision Support, Health IT Standards and Policies, and Communications to support these activities. She has worked at CDC for 11 years as an Informatics Health Scientist in various areas to include knowledge management, public health and clinical decision support and other activities related to electronic health records. She also worked for the Department of Defense for seven years as a systems analyst responsible for the design, development and management of clinical and administrative health information systems in both inpatient and ambulatory care settings. Ms. Garrett has a Master of Science degree in Health & Human Performance with an emphasis in public and community health and a Bachelor of Science degree in computer science. She is also a graduate of the Public Health Informatics Fellowship Program.

We build this testimony using the following contextual definition provided by the Meaningful Use Workgroup:

- **Population health:** a conceptual approach to measure the aggregate health of a community or jurisdictional region with a collective goal of improving those measurements and reducing health inequities among population groups. Stepping beyond the individual-level focus of mainstream medicine, population health acknowledges and addresses a broad range of social determinant factors that impact population health. Emphasizing environment, social structure, and resource distribution, population health is less focused on the relatively minor impact that medicine and healthcare have on improving health overall.

- **Governmental public health:** a core infrastructural entity that organizes an extended community (i.e., health care delivery system, schools, social services, academia, and legislative/regulatory and justice systems) to improve population health.

HIT Policy Committee provided another contextual approach that was the following vision of a **learning health system** in a draft of Health IT Strategic Framework (May, 2010):

"A *learning health system* is a system that is designed to generate and apply the best evidence for the collaborative health care choices of each patient and provider; to drive the process of new discovery as a natural outgrowth of patient care; and to ensure innovation, quality, safety, and value in health care "(p.4).

1. What MU-like data and public health applications and/or public health-EHR projects have you developed in your jurisdiction? How do they impact on public health surveillance, care coordination or other essential public health services?

CDC is the leading federal agency that has a mission "to create the expertise, information, and tools that people and communities need to protect their health – through health promotion, prevention of disease, injury and disability, and preparedness for new health threats."

Our public health applications may be classified in following five categories:

1. Public health surveillance and response (surveillance systems for monitoring of infectious diseases, chronic disease surveillance, injury and violence prevention, etc.).
2. Health status and disease management (health status and disability of diabetes patients, National Health Interview Survey, morbidity of persons with heart disease, etc.)
3. Population - based research (population-level applications for assessment of health disparities in areas of Immunization, Tobacco Cessation, Injury and Violence, etc.)
4. Population-based health care (i.e., population-level applications for analysis of barriers to health care)
5. Health education and communication (applications that contain definitions of nationally notifiable diseases, immunization schedule, guidelines for diseases prevention, etc.)

The direct impact is different for meaningful use processes on the development of HIT applications (that belongs to those five groups).This impact is driven by two factors:

a) Importance to develop and maintain electronically exchangeable data for a specific population health activity (for example, the meaningful use process may have limited impact on development of some applications for collection of data from national surveys. Instead, the meaningful use has a critical importance for HIT systems for a purpose of a rapid response to national public health threats).
b) Public health impact of specific public health activity. For example, some scientific CDC projects have less direct public health impact than direct public health interventions

From the perspective described above we believe that one of our highest priorities is to promote meaningful use strategies for development and implementation of national HIT applications for the public health surveillance and response. Examples of such applications are Biosense , FoodNet - Foodborne Diseases Active Surveillance Network, Pulsenet, and NVDRS- National Violent Death Reporting System.

CDC public health IT applications have direct impact on public health surveillance, care coordination or other essential public health services. Examples of this impact are improving timeliness of critical emergency response information, improving of communication among different surveillance systems and improved security of electronic messaging.

2. How might the results of your public health-EHR project inform and be learning opportunities for: 1) other public health jurisdictions, 2) HIT policy development, 3) evaluation of Stage 1 MU criteria, and 4) considerations for Stages 2 and 3 MU criteria?

We are striving to enhance CDC applications so they might facilitate the creation of knowledge through consistent policies, standards, and methods that leverage networked information. One of our major approaches is in the development of a national interoperable public health IT environment through the Public Health Information Network (PHIN). This network complements the Nationwide Health Information Network (NHIN), which operates in HIT environment for a primary care. By initiating collaboration with NHIN, CDC participates in building of a unified learning environment for data provides and public health agencies that operate in different jurisdictions (local, state and national).

Through comprehensive education and collaboration with national, state and local partners CDC promotes a shared vision of a learning public health system and the role of HIT in helping to create it. In May-June 2010 CDC established the Meaningful Use Advisory Group. One of the priorities of this group is to facilitate the timely dissemination of information relevant to meaningful use to CDC and partner organizations. For example, a listserv has been established for communicating with those interested and involved in meaningful use activities. The Group has started a discussion with partners a potential scope of public health activities for the Stage 2. CDC works with HL7, IHE and other standard development organizations on development and

implementation of interoperable messaging and vocabulary standards, implementation guides. PHIN is actively engaged in developing unified privacy and security guidelines that we implement on the national, state and local levels. PHIN Communities of Practice (CoP) work on educating of partners regarding meaningful use, Stage 1 priorities and accumulation of ideas regarding public health priorities for Stages 2 and 3.

CDC leverages population health data to expand public health knowledge and promote scientific discoveries that advance the understanding of health, disease, and treatments. Examples of programs that are involved in those tasks are the National Electronic Disease Surveillance System (NEDSS), BioSense, Health Alert Network (HAN), National Healthcare Safety Network (NHSN) and PH Lab Interoperability Pilot (PHLIP). One more area that might affect HIT policy development and Stages 2 and 3 is clinical decision support (CDS), specifically, related to disease prevention, health promotion and health education. The following priority areas are provided:

- Development CDS rules that directly engage health providers in preventive activities (reminders regarding cancer screenings, immunization gaps, etc.)
- CDS/ decision rules that are based on antibiotic resistance of microorganisms and for the purpose of appropriate prescribing of antibiotics.
- Decision support for automated triggering of infectious disease diagnoses in an electronic laboratory data feed.
- Decision support algorithms that trigger sending of automated electronic patient reminders about needs for preventive care (electronically generated automated reminders about preventive visits, laboratory tests, missed vaccinations, etc.)
- Patient education during a medical visit – aiming health care providers toward electronic generation of automated patient education information/primary and secondary prevention that is based on a specific patient status (educating a patient with a diabetes regarding a personal care, medication etc.)

One example of a CDC EMR decision support project is the Public Health Alert project. The goal of this project is to develop an interoperable, flexible and open architecture for decision support modules in the EMR systems that can then serve public/population health purposes and to build an interface between clinical and public health. Working with public-private partners this project recently demonstrated the capability to create an actionable public heath alert that can be consumed by an electronic medical record system. This solution consists of : 1) the public heath alert, 2) the alert knowledge repository, and 3) the anonymous profile information retrieval mechanism that interfaces with the EMR system. This project explores extending the existing capability to communicate with EMR systems using a standard messaging format (HITSP T 81) to deliver an actionable public health alert to the provider based on a trigger. By offering a targeted method of delivery, the project aims to avoid alert fatigue and disturbance of clinical work flow.

3. What are your next priorities for the described public health-EHR project?

1. CDC works on further implementation of Stage 1 priorities and building of broad collaboration with partners towards achievement of measurable results. Some major activities for this objective are:
    - Collaboration with NHIN on development of interoperable HIT solutions that might be quickly implemented by health care providers and public health;
    - Development and improvement of implementation guides that support public health objectives for Stage 1 (Laboratory reporting, Syndromic surveillance, and Immunization)
    - Assisting NIST in development of certification process for public health objectives
    - Further improvement of CDC enterprise shared messaging and vocabulary services
    - Supporting national, state and local health partners on implementation Stage 1objectives
2. Re-assessing a public health role of PHIN and focusing on building interoperable national public health IT:
    - Education of partners regarding meaningful use
    - Working with NACHO, CSTE, PHDSC and other national organizations on defining and removal of barriers for implementation of HIT technology and interoperable public HIT solutions
    - Working with partners (APHL, CSTE, Regenstrief Institute, IHTSDO, etc.) on further development and implementation of electronic laboratory reporting (ELR)
    - Working with CSTE on development of standard data elements and vocabulary that should support public health reporting and notification on different jurisdictional levels
    - Engaging partners in collaboration through public health CoPs
    - Sharing public health IT standards that support meaningful use through publicly available web sites
    - Further development of optional meaningful use certification for public health
    - Development of interoperable NHIN/PHIN technical solutions
3. Developing a continuous improvement process for evaluation and analysis of the public health impact of HIT meaningful use:
    - Developing evaluation criteria and measures for assessing PH impact;
    - Aligning CDC business priorities, information and health IT infrastructure
    - Engaging partners and communities in a continuous improvement process
4. Working with partners and communities on identification of considerations for Stage 2 and 3.
    - Use CDC Meaningful Use Advisory Group to develop CDC vision on Stages 2 and 3 objectives for population health, preventive care and health promotion and organize respective communication with HHS and FACA HIT Policy and Standards Committee
    - Collect and analyze proposals from CDC programs and partners

- Participate on relevant HHS and national decision making bodies, particularly those related to measures, certification and standards
- Develop and widely communicate a clear, comprehensive CDC message to states regarding expectations for developing EHR capacity

5. Foster improvement of public health outcomes, health quality, care coordination, and efficiency of the health care system through the adoption and meaningful use of health information technology:
   - Engage CDC programs in development of quality care measures with a primary focus on preventive care, health promotion and health education
   - Continue development of projects on implementation of electronic public health alerts, ELR and assessment of healthy behaviors through Clinical Decision Support (CDS) rules
   - Advocate for capturing of important emergency response and preventive care information through personal EHR (, status of pregnancy, alcohol use, substance abuse etc.).
   - Develop and implement algorithms for automated generation of patient-centric preventive educational materials that are based on national health assessment (i.e., *Healthy People 2010*) at a primary care office.
6. Assist state department of health in promotion of preventive services, health promotion and patient education through quality measures endorsed by states.
7. Making next steps in collaboration between CMS and CDC for implementation of effective preventive care strategies that might be leveraged through the meaningful use process.

4. What should be logical next steps for MU criteria development?

We believe that next logical steps for population health MU criteria development are:

1. Further align national health priorities for population health, health promotion and preventive care with the ‘‘Patient Protection and Affordable Care Act’’, updated HIT Strategic Framework, etc.
2. Add more specific preventive care quality measures that are based on national health priorities.
3. Better capture personal health records data elements that are critical for patient-centric prevention activities (behavior problems, lead screening, pregnancy status, etc.)
4. Better align a learning health system approach with the Federal Health Architecture
5. Assure involvement of ONC in development of the national shared messaging and vocabulary cervices, and metadata repositories (i.e., PHIN VADS); those shared

services should be incorporated into the Federal Health Architecture and NHIN architecture.

6. Develop interoperable electronic data exchange environment for effective electronic communication between patient-level data providers and public health agencies on a local, state and national level.
7. Develop a system for optional certification of public health electronic records and electronic health records modules. This system should complement meaningful use certification process and serve as a foundation for a progress of meaningful use activities in area of public health.