

**HIT Policy Committee  
Meaningful Use Workgroup  
Population Health Section  
Washington, DC  
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**Testimony of Dr. Virginia A. Caine, MD, Director of the Marion County Health Department, Indianapolis, IN and Associate Professor, Indiana University School of Medicine, Division of Infectious Diseases.**

Good morning, Dr. Hripcsak and Dr. Davidson. I am Dr. Virginia A. Caine. I am the Director of the Marion County Health Department that encompasses Indianapolis and an Associate Professor in the Division of Infectious Diseases at the Indiana University School of Medicine. Thank you for inviting me to offer comments about our experiences with “meaningful use-like” projects in Indianapolis and the current status of those projects. To begin with, I must mention the Indiana Health Information Exchange, which we call IHIE, is a non-profit organization that was formed in 2004 and is dedicated to supporting Indiana's communities by providing services that enable the right medical information to get to the right provider at the right time to enhance patient care.

IHIE is a remarkable coalition made up of major healthcare stakeholders — including five competing hospital systems, the nation's largest health insurer, employers, physicians and public health officials along with other economic development, community and business organizations. Marion County Health Department is a member of the IHIE network and I, as the director of public health, sit on the Board of Directors. It operates under the direction of its President and CEO, Dr. J. Marc Overhage, MD, PhD., and the officers of the corporation are Vincent Caponi, CEO, St. Vincent Health; Thomas Inui, MD, President & CEO, Regenstrief Institute; and David Johnson, CEO, BioCrossroads.

Indianapolis is experiencing transformational change in health information systems. To date, IHIE partners have participated in the following public health EHR projects:

*Syndromic surveillance.* PHESS helps to monitor population trends and has identified real events of public health significance including a large gastrointestinal shigella outbreak in December of 2005.

*Immunization data.* By sharing immunization data in a bidirectional fashion between the health information exchange and MCHD, we can provide better information to care providers and public health officials to ensure that patients receive appropriate immunizations.

Electronic laboratory reporting. We have demonstrated and published evidence illustrating how electronic laboratory reporting can be augmented/enhanced by leveraging electronic data flows within the health information exchange.

I would like to emphasize that there are many systems that look at data such as private physician practices, hospital systems, and insurance providers, but public health is the only system that examines, analyzes, and disseminates overall community or **population health** data. It is important to remember that your constituents are very mobile and move around between providers and insurers and employers every day. The population health picture belongs to public health.

Let me introduce you to the “needle butt” baby. This is a baby that keeps getting the first of a series of vaccinations without completing the series because he or she is changing providers frequently and unaware that a prior vaccination was given. This results in this baby not receiving the completed recommended immunizations in a timely manner, and from a patient safety perspective, may not be protected from a life-threatening illness when he or she is most at risk, receiving unnecessary exposure to medications with its inherent side effects, compounded by the issue of wasted resources regarding time, personnel, and supplies. When public health gets all the data for patients, and makes that data available for all providers, appropriate immunization schedules are utilized correctly and efficiently. Immunizations are the cornerstone for preventive care. This helps to increase community immunization rates overall and provide more protection for our children. For special populations like WIC recipients, vulnerable and indigent populations, we can decrease high outreach expenditures, and decrease waste of duplicate procedures. We don't want to screen and vaccinate the same child multiple times for the same starting vaccination.

There are many examples of the effects on population health of comprehensive health information exchange. For instance, in our shigella outbreak—comprehensive data exchange made the difference in determining whether the outbreak occurred predominantly in a school-age population or a particular industry, for example the food industry. Once the common source of the outbreak is determined, then alerts can be attached to the electronic medical record of the patient to make sure that appropriate testing and treatment is dispensed based on the documented community bacteria strain susceptibility results. In the case of our syphilis epidemic, doctors were sent electronic messages with algorithms for syphilis testing and prompted to do appropriate and additional syphilis testing. For example, in our pregnant mothers an additional screening test was required to prevent congenital syphilis. In a recent TB outbreak we had in the homeless population, red flags were placed on the medical records of homeless patients prompting appropriate outbreak TB testing in certain patient settings, allowing us to get the outbreak under control. The system can also work in a “backdoor” sort of way by posting an alert when a certain test is ordered, prompting the practitioner to perform additional public

health testing for the patient. Our public health nurses are notified to make 48 hour post-partum visits to mothers and babies who are discharged from the public health hospital within 48 hours of delivery to make sure that mother and baby are clinically responding appropriately and providing preventive care to help decrease the rate of infant mortality.

There is also the case of situational awareness in which enhanced reporting and clinical messaging with DOCS4DOCS, such as what occurred during the H1N1 pandemic, prompted the provider to do the appropriate testing, understand who should receive prophylaxis, and whether prophylaxis for family members of the index patient was done. Our HIV Program is aware of TB and STD co-morbidity in its clients with the help of electronic health records. Our Housing Program inspections have increased the identification of lead poisoning in children due to the ease of use of electronic records.

These IHIE partner projects could inform other public health jurisdictions, Health Information Technology policy development, evaluation of Stage 1 Meaningful Use criteria, and considerations for Stages 2 and 3 Meaningful Use criteria in the following ways:

1) Other public health jurisdictions: for public health entities that wish to leverage other health information exchange to support public health practice, we can provide lessons learned from our experience.

2) Health Information Technology policy development: We've demonstrated that partnering with health information exchange can help support public health practice. As a nation we must be mindful of the great interfacing burden that public health may face if they must receive data from tens of thousands of different entities (individual EHRs). Currently, maintaining such a data infrastructure without significant public health resource investment may be infeasible for all but the largest of health departments in this nation. Funding must be provided for all public health departments to be able to participate in health information exchanges. Strategies for managing these data flows and potentially leveraging existing data flows from organizations such as health information exchanges must be explored and promoted where feasible. Our experience may also help inform policies and other areas, e.g., exploring the implications of privacy and security policies and procedures.

3) Evaluation of Stage 1 Meaningful Use criteria: Because we have experience with surveillance, immunization, and electronic laboratory reporting data, we are able to think strategically about assessing stage one meaningful use data.

4) Considerations for Stages 2 and 3 Meaningful Use criteria: as we contemplate moving towards stage two and three for meaningful use, we are in a position to potentially perform a gap analysis against existing infrastructure to assess its capacity to support these additional stages.

The next priorities for our EHR projects are to continue to support surveillance with additional focus on chronic diseases such as diabetes, obesity, HIV and environmental indicators involving lead poisoning in children, in addition to immunization and electronic laboratory data exchange. Further, we will be as supportive of meaningful use in our community as our resources allow us to be.

I would offer the following next steps for Meaningful Use criteria development:

Step 1: Query public health stakeholders at the federal state and local level to develop a sense of their top priority data requirements. (These are the customers.)

Step 2: Based on a weighting or prioritization process (e.g., perhaps of the office of the national coordinators choosing), organize these data needs into logical headings and then prioritize them.

Step 3: To assess the practical, pragmatic feasibility of meeting public health's requirements in these areas, consult with medical informaticians and public-health informaticians who have been supporting these data requirements in the real world to gage the feasibility of each type of data need.

Step 4: Based on a) the informatician group's assessment of feasibility, and b) the various priorities, identify metrics that are both achievable and will provide real value to public health.

With the influx of the increased amount of data from a Health Information Exchange, local public health departments need Health Information Technology core capacity and resources (staff and equipment) to be able to develop, implement and evaluate population health programs and policies, meet accreditation standards, and do continuous quality improvement.

Workforce training and interoperability are key issues for local health departments. Continuous funding should be planned into the meaningful use budget for these important issues. We need to develop core competencies in public health informatics.

To the greatest extent possible include regular constituents in the planning process.

Also, would it be appropriate to sign up as many primary care providers to become "meaningful users" and qualify for the incentive payments from HHS? Since only 20% of doctors use basic electronic health records, should local health departments be funded to do an assessment of practices in their communities and then help the practices to apply for meaningful use funding?

Public health agencies should expect improved population health effects as the nation moves toward MU of certified EHRs. Here is what I picture for the future of public health departments in regard to health information exchanges. Up to this point, public health departments have tried to determine what the complete picture of health status is in their communities, but it is an incomplete puzzle. We have many of the puzzle pieces in place such as data from records of the people for which we actually provide clinical preventive services in public health department primary care clinics; data from grant projects in which coalitions of public health partners serve specific clients for a specific condition such as HIV, STDs, Lead screening in children, Maternal and Child Health; data from immunization records; data from birth and death records; hospital data, school health data, data on the condition of housing stock; and census data on demographics of our communities at large, which is only a snapshot in time. The picture of community health status can be very incomplete if ambulatory private provider data is not readily accessible in this current “siloes” scenario.

But, in the future, by meaningfully participating in health information exchanges, public health departments will have access to a much more complete and robust set of variables in real time that will provide public health program managers, epidemiologists, and public health informaticians with a much more complete picture of community health status. This will go way past the current level of syndromic surveillance, immunization registries, and electronic lab reporting that I described above. In the future, I picture a health record that is going to clearly show me, my treatment team, and, in aggregate data sets, show my public health staff and partners, not only my patient’s clinical information, but information about that patient’s social determinant’s of health and about the environment in which he lives. For instance, if I know that my obese pediatric patient is living in poverty, unable to afford membership in a fitness club, no sidewalks, no access to a grocery store with fruits and vegetables, no bike trails and lack of significant physical education in his or her school and if I have access to this available information, then I may have an alternative treatment strategy that is more effective than the traditional medical treatment recommendations usually provided. As we are adding layers of public health social determinant data such as where are concentrations of fast food facilities, farmer’s market, recreational parks, walking and biking trails, communities with ample sidewalks, schools with healthy food products and significant physical activities requirements for its students will allow us to promote resources and better recommendations for population health programs and policies. I see layers of medical, dental, personal behavioral, and environmental data for each patient and patient populations that will inform population health strategies for improved health status.

Population health measures include social determinants of health. The RWJ/University of Wisconsin Population Health Institute demonstrated the affects of these in their County Health Rankings report that was released earlier

this year. Things like poverty, air pollution levels, and lack of legitimate grocery stores make a big difference in population health and play a huge role in our constituent's ability to stay healthy. Patients and public health practitioners alike need access to all of this information. Investments made in the local public health system that is focused on collection and analysis of preventative behaviors and social determinants of health will reap great rewards and eliminate health inequities.

More meaningful data will inform policy efforts in a more timely fashion. It's well known that local public health agencies are adept at making partnerships with all kinds of organizations in the community to influence policy and leverage resources to achieve improved health outcomes. A fuller picture provided by more complete data will help us to reduce the "siloeing" effect we have experienced and can enable our partners and coalitions to more effectively focus on developing policies that support the comprehensive prevention strategies which will be formed, thereby eliminating waste.

In closing, I would like to say that, as health reform processes unfold, local communities will expect and demand a Health Information Technology system that is capable of measuring population health status for communities of any size—whole states or as small as defined neighborhoods. Along with their healthcare partners, public health departments across the nation must also have the capacity to participate in a meaningful way in "meaningful use" projects. I encourage you to ensure that that capacity is realized. Let's at least be able to track our constituent's population health status like UPS tracks our packages.

Thank you very much for your attention.