

TESTIMONY

of

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Coordinating Federal and State Health IT”

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Good afternoon, Chairman Towns, Ranking Member Bilbray, and Members of the Subcommittee. Thank you for the opportunity to testify on the important subject of health information and technology.

My name is Farzad Mostashari, I am Assistant Commissioner in charge of the Primary Care Information Project at the New York City Department of Health and Mental Hygiene.

The invitation to these hearings mentioned this Subcommittee's oversight of federalism and the efforts of federal, state, and local governments. Let me start by stating that while there is legitimate debate over the relative roles of these different levels of government, there is no question that government has an important role to play. The current health care landscape does not deliver health, efficiency, or equity: The system is rife with redundant, unnecessary, and sometimes harmful interventions, while evidence-based life-saving measures are delivered only about half of the time. Health disparities are not addressed, or are even exacerbated, by unequal delivery of services. We, at all levels of government, as purchasers of health care, and as guardians of the health and safety of the public, have a responsibility and an opportunity to create a new policy landscape for healthcare.

There is no question that paper-based systems are a part of the problem, and that interoperable health information technology (HIT) must be a part of the solution. More than three decades of carefully planned and executed research studies in academic research centers and integrated delivery networks have demonstrated the potential of quality, safety, and efficiency gains with electronic health record (EHR) systems. The Institute of Medicine has supported the extension of electronic health records as a key strategy in addressing the quality chasm, the President has called for all Americans to have electronic records by 2014, there is bipartisan support for legislation that would increase access to interoperable health record systems, and many states have launched ambitious "e-health" initiatives.

However, a note of caution is required. While extension of electronic health records and establishment of standards and structures for interoperability and health information exchange are critical building blocks, they are not sufficient. A recent study in the Archives of Medicine found that patient encounters conducted with electronic medical records, as currently designed and implemented, had the same low rate of adherence to best practice guidelines and the same low quality of chronic disease management and preventive care as primary care visits conducted with paper records. This may seem paradoxical, but should not come as a surprise. The healthcare IT market has not produced systems that focus on prevention and chronic disease management; physician office workflows and processes are still not oriented towards prevention and chronic disease management, and our reimbursement system still rewards health care services delivered, not prevention. Any effort (or legislation) that hopes to yield a net public benefit from investments in HIT must address not only electronic health record extension and interoperability but also prevention and chronic disease management, and do so in a

way that does not leave behind medically-underserved communities. In New York City, we believe that we have created a model that accomplishes this.

The NYC Primary Care Information Project

The NYC Primary Care Information Project (PCIP) seeks to improve population health in disadvantaged communities through the use of interoperable HIT. The initiative was anchored by a City commitment of \$27 million and approximately 40 staff members to support the project. Our strategy and organization includes three components, a community electronic health record extension network, communitywide health information exchange, and a quality reporting and quality improvement network.

Community EHR Extension

The first part of our strategy involves providing prevention-oriented EHRs to primary care providers who care for the medically-underserved.

Our initial focus was community health centers. With focused funding from the Robert Wood Johnson Foundation, we helped create a Primary Care Health Information Technology Consortium comprising all 29 of the City's federally qualitative health center networks. Our goal is that all of them will have prevention-oriented EHRs by 2009. That's 648 FTE providers; it's about half a million patients, 50 percent of whom are on Medicaid and 20 percent of whom are uninsured. In support of this consortium of safety net providers, we were able to successfully advocate for \$3.2 million in New York State funding to purchase and implement EHR software or, for those who have already implemented a system, to incorporate population health and preventive care functionality within them. The consortium has also successfully advocated for \$2 million from the New York City Council for health center infrastructure, and \$600,000 for workforce retraining.

We next looked towards solo and small practices, which provide 80 percent of primary care in this country, but which do not have the financial, technical, and quality improvement resources of larger practices, academic medical centers, and integrated delivery networks. Consequently, these practices have the lowest rate of EHR adoption in the nation (recently estimated at less than five percent) and face the greatest challenges in being able to provide high-quality evidence-based care. We are looking to other organizations to help convene and support small providers as they try to adopt electronic health records—the medical societies, the quality improvement organizations, the hospitals and some health plans.

One of the main things that we are doing is outreach and education. We have developed a City Health Information bulletin which describes the basics — what is an EHR, what are some functionalities of an EHR, privacy and security issues, the economics and potential financial benefits, challenges to implementation, a readiness assessment, information about the Primary Care Information Project, and Continuing Medical Education credit. We have also developed a public health detailing campaign, with an EHR action kit with

educational materials for providers, other practice staff and patients, and have conducted hundreds of onsite visits to practices in the south Bronx, central and east Harlem and central Brooklyn. This material is available on our website at www.nyc.gov/pcip.

We will assist more than 1,500 New York City primary care providers to adopt a prevention-oriented EHR system in the next two years. The first practices to start up on the EHR did so this month. Once we are fully operational, we will assist 100 providers a month to implement the system. Here is the basic outline of our operational approach to EHR extension to these practices:

Following rigorous and competitive procurement, the City has registered a \$20 million contract with a commercial EHR vendor, enhanced its preventive care functionality, and granted licenses to community practices that care for medically-underserved populations and that have made the necessary in-kind and cash commitments.

We sent out a Request For Proposals based on Certification Commission for Health Information Technology criteria and received a strong vendor response. All the large ambulatory EHR vendors bid on our project. We did five finalist demos -- five days of taking them through their paces and asking the tough questions --and then conducted financial and organizational due diligence.

The software we selected employs a one-system solution incorporating the practice management system (scheduling and billing), medical charting and electronic prescribing, querying and reporting functionalities and patient portal functionality. Most importantly, it has modern architecture—it is flexible, modular, and configurable.

To be eligible for our program, practices must provide primary care. They must care for underserved and vulnerable populations (at least 30 percent of encounters for Medicaid or uninsured patients). They must participate in our public health goals, including automated confidential public health and quality reporting. They must take part in the quality improvement activities, including the decision support tools.

The City is granting these eligible practices a package of software and services. This includes unlimited perpetual licenses to the New York City build of the EHR and practice management software, which has the decision supports and the linkages to NYC systems. The package includes two years of maintenance and support; onsite training (the vendor is setting up a NYC office to be available to our participants); data interfaces to all large commercial laboratories; quality improvement technical assistance onsite and online. It also includes predictable and relatively low maintenance and support costs in the range of \$1,650 per year.

The implementation is managed by the vendor. Our staff help with organizational IT and practice readiness and provide needed support to the practices' project management, implementation, and quality improvement efforts. Given our ability to leverage the scale of the project, the cost to the City for each provider is approximately \$12,000 for every

individual clinician in vendor costs, and approximately \$3,000 per clinician in DOHMH staffing required to support practice readiness, implementation, and evaluation.

In return, the practices have to bear in-kind costs of hardware and network infrastructure, and productivity loss during training, start-up and evaluation. They must assume all the ongoing costs of maintenance and support after the two-year testing period. Finally, practices must commit \$4,000 in cash per provider to a quality improvement fund that will finance post-implementation quality efforts.

Community Health Information Exchange and Interoperability

Interoperability standards and health information exchange have been the focus of the initial work of the Office of the National Coordinator and most of the state-funded eHealth initiatives. How much of a difference have these efforts made on the ground?

In our experience, these efforts have had a measurable impact in some areas, but well-established and agreed-upon standards are still not widely implemented, and standards development is proceeding slowly in priority areas and maybe too hastily in other areas. Let me give you some concrete examples:

Where standards and exchange have worked well:

- We have successfully used industry standards (NCPDP Script 8.1) in working with New York State Department of Health to establish a query-and-response service that provides 90-day medication fill histories from the State's Medicaid claims warehouse to providers at the point of care. The messaging standard and implementation guide significantly reduced the time and resources needed to establish and test this connection, and makes it much more easily scaled to other providers.

Where established standards are not implemented, or priority standards not yet established:

- In our community EHR project, we would like providers to be able to integrate electronic results from multiple laboratories. This would require that the laboratories use standard ("LOINC") codes for their laboratory results, or at the very least, commit to providing an accurate and updated mapping of their proprietary dictionaries to this standard. This has been difficult and slow to accomplish, even for a project of our size, scale, and technological readiness.
- We would like to integrate medication fill histories from pharmacies or payors with the provider's own prescribing history, and enable providers to move from one medication (and allergy) database to another. This still requires drug-by-drug manual review.
- There are no standards for representing key items on a problem list, like "ruled out" or workup-negative diagnoses, persistent versus intermittent asthma, or accurately representing smoking status ("current," "former," "never," "missing").

- There is no vocabulary standard in the U.S. for collecting “reason for visit” (aka “chief complaint”) for primary care encounters.
- There is no service-oriented (query and response) messaging standard for patient-centered health information exchange documents that could be used by a medical provider to query multiple Regional Health Information Organizations, or by a consumer to request his or her medical summary from multiple organizations.

Where standards development may be proceeding too hastily:

- Standard-setting for quality of care measurement and biosurveillance may enshrine a reporting and analysis architecture derived from experience with and orientation toward data mining of quality or public health data warehouses, rather than considering the transformational potential of EHR-derived automated clinical quality measurement and public health reporting.

As the Institute of Medicine’s (IOM’s) recent letter report (“Opportunities for Coordination and Clarity to Advance the National Health Information Agenda”) clearly describes, the absence of a strategic plan and the lack of clear decision-making processes have hindered progress on interoperability. The IOM also suggests a process and a commitment to evaluation and updating of standards based on experience in the field. The work of the New York State Department of Health in establishing a statewide health information network should provide both short-term value to health information exchange activities in the New York, and valuable input and experience for national standards-setting organizations to build on.

A particularly important priority for concordance between policy and standards is protecting privacy and security. A framework for implementing privacy through technology as well as policy, such as that delineated by the Markle Foundation’s Connecting for Health Common Framework, would fill a critical national gap.

The impact of the planned transformation of the American Health Information Community is unknown, but in our opinion, it is unlikely that a purely private and industry-led body will be able to provide credible policy leadership to this process.

Community Quality Improvement Network

As mentioned in my introduction, in order to achieve community health and a public good from interoperable EHRs, the software products need to change, physician office practice processes need to be redesigned, and provider and practice benchmarking needs to be improved, so that meaningful recognition and incentive programs can be established. In that process, there needs to be an intense focus on priority preventive care and chronic disease management issues that have the greatest impact on the health of the community, and each of these areas (technology, practice, reimbursement) needs to support the others in mutually interdependent fashion.

EHRs Need to Change

Electronic medical records as currently implemented do not improve the quality of care or prevention. The following features are critical to realizing the potential of EHRs, but are not effectively or consistently implemented in products that are currently certified as meeting Certification Commission for Health Information Technology standards.

1. **Structured Data Collection:** For effective development of quality measurement and decision support tools, required data elements must be collected in a standardized manner across the community. This requires using common drug, laboratory and procedure codes; using standard definitions and responses for a minimal set of required medical history items (e.g. smoking status); and ensuring that the required data are consistently and accurately collected.
2. **Registry functions:** It is absolutely critical that practices have the tools and training to look at entire patient panels and to generate lists of patients for recall (e.g. on a recalled medication) or anticipatory care (e.g. coming due for a test). An ideal registry manages populations with chronic disease and assists providers with an outreach and service infrastructure (e.g. sending letters or e-mail).
3. **Quality measurement:** A set of clinical quality measures that comprehensively but parsimoniously addresses priority health issues (like blood pressure, diabetes, lipid control, immunizations, and screening for cancer, HIV, depression, and alcohol/substance abuse) must be predefined and easily reportable, and afford the ability to view and analyze health disparities by race/ethnicity and income/insurance status.
4. **Decision support tools:** For each of the priority issues measured, patient-specific, automated decision support tools (e.g. treatment reminders, adverse drug event warnings) at the point of care help providers and their staff to adhere to clinical best practices, follow preventive care guidelines, and avoid harmful errors.

Our work in this area draws on the experience and resources of the CDC-funded NYC Center of Excellence in Public Health Informatics, a collaboration among the Department of Health and Mental Hygiene, the Columbia University Department of Biomedical Informatics, and the Institute for Family Health, a fully paperless community health center network in NYC, and the winner of this year's Davies Award of Excellence in Public Health.

In the Primary Care Information Project, we have embarked on a joint development project with our "best of breed" Certification Commission for Health Information Technology certified EHR vendor to improve and deepen their products capability in these domains, and to demonstrate the functionalities and impact of a model electronic health record for community health.

We are now beginning to work with NYC providers using other EHR products, and their vendors, to extend these functionalities to other systems as well.

Practices Need to Change

Business and clinical care process changes are needed to realize EHR-enabled quality improvement.

1. Changing workflows: Practices should take the opportunity to rethink workflows instead of “paving the cow paths,” i.e., merely digitizing current inefficient processes. By mapping out common workflows (e.g. scheduling, rooming and examination, referrals, prescriptions, immunizations, billing and checkout) practices can examine and improve existing processes to maximize the productivity of support staff (e.g. standing orders), patient and staff satisfaction, and completeness of necessary documentation.
2. New workflows: Taking advantage of EHR functions may require creating new workflows and staff functions. Examples include designing processes for care management of panels of patients with a chronic condition, using clinical and administrative feedback reports, and electronic patient communications.
3. Patient-centered care: Practices will need to look at their processes from the patient’s viewpoint – how can patients be supported through education, goal setting, self-management, medication adherence, etc.?
4. Privacy policies and procedures: Practices must establish privacy policies and procedures to ensure that patients’ health information remains secure. This includes restricted access to only appropriate users, passwords, and staff education and workflows that support effective documentation of consent and privacy.
5. Billing: EHRs can enable improved preventive care and chronic disease management, but practices have to carefully review the reimbursement policies and incentive programs for which they are eligible in order to maximize the return on investment in providing high quality care.
6. Staff and budget implications: Practices will need to hire or retrain staff to meet new needs (e.g. scanning, computerized documentation, panel management) and ensure access to professional IT support, and be prepared to make a significant time investment to successfully implement the EHR system.

We have established a Quality Improvement Technical Assistance Fund, using the \$4,000 per provider cash contributions from practices implementing the EHRs, and supplemented it with PCIP staff in order to provide comprehensive support for practice redesign and quality improvement that includes onsite assessments and a collaborative readiness model, and these practices will hopefully evolve into an ongoing learning community.

Reimbursement Needs to Change

Financial incentives for medical providers are misaligned. Solo and small primary care practices are squeezed by stagnant reimbursement rates and rising costs, and are finding it difficult if not impossible to meet their increasingly complex professional duties while seeing enough patients to pay the bills, much less engage in quality improvement activities.

Implementing and maintaining health records, changing workflows, conducting population disease management, screening for, and dealing with the consequences of, depression, alcohol and substance abuse or HIV, and providing high-quality preventive care and chronic disease management require additional resources. Under our current service-based reimbursement system, activities that deliver improved health are usually poorly reimbursed, un-reimbursed, or even decreasingly reimbursed.

However, current quality measurement methods and data proposed by purchasers and health plans (including CMS) rely on the use of aggregated administrative claims data for quality measurement, and physicians are reluctant to accept greater reimbursement tied to “pay for performance” arrangements using this data.

We believe that if quality measurements are going to be used for significant incentives or recognition programs, the data has to be better. EHR-based quality measurement has a huge role to play. Interoperable EHRs with population health functionalities, implemented by practices that focus on appropriate use of the EHR-enabled quality measurement and decision support tools, can finally produce reliable metrics of actual clinical outcomes (e.g. blood pressure control).

Most significantly, however, these tools also give practices the tools they need to improve their performance on the basis of these metrics, and, hence, the health of their patients. Rather than receiving a report card which tells them about their failures after the fact, clinicians will receive a reminder saying “person needs a flu shot, click here to order” while seeing the patient¹.

We are working with New York State Department of Health, the NY eHealth Collaborative, the NY Business Group on Health, Bridges to Excellence, selected health plans, and our Quality Improvement Organization, to create a distributed model for automated collection and aggregation of clinical quality measurement data from EHR-enabled providers that would be used as the basis for physician benchmarking, recognition programs, and a “pay for prevention” incentive structure. The additional revenue generated from the recognition and incentive programs would then sustain the EHR implementation and practice redesign work necessary to produce the quality reports and quality improvement efforts.

¹ We have been awarded a research grant from the Agency for Healthcare Research and Quality to evaluate the impact of this type of EHR-derived quality measurement on provider satisfaction with performance measurement.

Concluding Remarks: “Top-down” or “Bottom-up”?

New York City’s Primary Care Information Project is an example of a community-led project with local innovation and resources that has received limited federal funding (for research and evaluation) comprising less than 10 percent of overall project costs. We have struggled to realize true interoperability, and while we have realized some definite benefits from national standards development and certification activities, we are still frustrated by the slow rate of progress in national standard setting in some areas, and fearful of the adverse impact of premature standards-setting in others.

Community EHR extension projects like ours can remove several critical barriers to achieving quality gains through EHRs, particularly in solo and small medical practices where most primary care is delivered and in community health centers, which are the backbone of our health systems safety net. These gains include:

1. Helping practices understand the risks and benefits of EHR adoption.
2. Reducing complexity and risk of EHR product selection.
3. Decreasing initial cost of EHR adoption.
4. Standardizing and facilitating network and IT infrastructure and IT support.
5. Facilitating interoperability, including access to electronic laboratory results.
6. Bringing scale to quality improvement collaborations and learning communities.
7. Helping practices qualify for recognition and quality incentive programs.

We and other communities like ours could realize a great public benefit from federal legislation that provided funding and a comprehensive framework for EHR extension, health information exchange, and quality measurement — if such legislation included an explicit and pervasive emphasis on prevention and chronic disease management; a concern for disadvantaged communities and the underserved; support for community-based projects as the “action arm,” for these activities; and a full commitment to fund and support the rigorous evaluation and optimization of these initiatives.

Thank you for the opportunity to testify on the role of health information technology in improving population health and reducing health disparities. I would be happy to answer questions from members of the Subcommittee.

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