Testimony
HIT Policy Committee
Advanced Health Models and Meaningful Use Workgroup
Hearing on Advanced Health Models

June 2, 2015

Good Morning.

I will be sharing perspective from my experience in the Community Health Center world where I am privileged to have spent almost thirty years as a Pediatrician, and the last dozen leading the Alliance of Chicago Community Health Services, a HRSA funded Health Center Controlled Network that provides shared HIT background across more than 45 Safety Net organizations in 16 States.

In the interest of brevity I will assume that most of you are familiar with Community Health Centers (if not please visit www.bphc.hrsa.gov or www.nacho.org).

To level set though I would like to highlight 3 features of Community Health Centers.

1. they must be of the Community, focused on its particular needs and resources and governed by a Community Board, and must provide a comprehensive set of health services backed up by enabling services.
2. They have been tracking and reporting on common quality measures for decades
3. There is a decades long experience of data driven quality improvement work based upon a common vision and model.

I'd like to begin and ground my remarks in the context of this model – Ed Wagner's Chronic Disease Model, promoted by the Institute for Healthcare Improvement. This model has shaped my entire view of health and healthcare, and has guided our approach to application of Health Information Technology.

At the heart of the model is the notion that when health care providers and consumers come together, their work together is enabled by having the right information to maximize their interaction, and that the interaction occurs within an environment that is facilitated (or adversely impacted) by health system and community factors.

I'd like to highlight a few ways in which features of technology: Clinical Decision support, data aggregation/analytics, and innovative approaches to sharing data have enabled this work.

Even the most basic functions of Health Information Technology, by making information more readily viewable, have facilitated the multidisciplinary care provided at Community Health Centers, enabling

previously siloed practitioners and members of a multidisciplinary care team to leverage each others' work.

However it is the ability of technology to enhance the way the clinical team and patient process information that to me has been even more powerful.

My first example is in of the most basic beginning functions of an office visit, the measuring of vital signs. As a Pediatrician, i am charged with interpreting height, weight and blood pressure in the light of age and growth trajectory. The complexity of this interpretation, previously requiring use of nomograms and percentile charts, along with the limited time allotted for visits, often left overweight or elevated blood pressure unrecognized. The integration of interpretive algorithms has enabled instant identification of obesity and elevated blood pressure at the time they are entered, alerting not only the medical practitioner but the entire care team who can be part of the response during the visit.

Combined with data analytic and reporting capabilities, the technology also can enable the Health Center to track these health challenges at population level, to inform pre-visit planning and organization of the care team to address the day's, schedule, support population management functions, guide performance improvement activities, , and highlight important trends and disparities over time.

The ability of data to be aggregated and analyzed at community level adds a new dimension to set context that is important for both the practitioner and consumer, and blurring the distinction between individual and public health. In Chicago, there is enough density of population seen at Health Centers on the Alliance platform to develop community level heat maps of obesity and other health conditions/characteristics. This points to the potential for individual level health information not only to be utilized to set context for care provision, but to be part of real time public health surveillance.

At the Alliance we have been exploring this potential in various ways. As part of a city wide project called Health Link, originated by Dr. Abel Kho of Northwestern University, Alliance data and data from other health systems across the city is pooled, and with a matching algorithm used to create pictures of health conditions across the city. Building on this experience, CAPriCorn project, one of the PCORnet projects funded in Chicago, is building a virtual research infrastructure that can go even deeper.

The chart at right represents a heat map of hypertension diagnosis aggregated by community area across multiple institutions. Certainly exciting from a community and public health perspective , but only as good as the diagnosis data.

It is increasingly recognized that hypertension, dependent upon recognition of patterns across multiple encounters is often missed. Within the Alliance database, we are now able to apply algorithms that search previous observations, and provide both point of care alerts and population level reports to allow the Health Centers to catch previously unrecognized hypertension, which was about 16% of cases. The

potential to apply these alogrithms across institutions through Health Information Exchange promises to identify even more.

As community based primary care providers, we recognize that to prevent or address obesity and hypertension, precursors and proxies to our most signficant health problems as a Nation, requires looking at factors that lie beyond the office visit or medical interventions. We must contemplate the environments in which we as consumers make choices around things like diet and exercise. To be effective our recommendations and care plans should incorporate these realities.

The CommRx project, a partnership between the Alliance, the Chicago Health Information Technology Regional Extension Center, and the University of Chicago Center for South Side Health and Vitality Studies under leadership of Dr. Stacy Lindau, attempts to make this link. Through the project, health problems identified are matched through an ontogeny based algorithm in real time to a comprehensive database of community resources in the consumers immediate vicinity, to return a real time
Healthy Rx given to the patient as part of the visit summary. The Healthy Rx allow lifestyle based recommendations to be grounded in the community realities. Aggregate data can help communities develop resources where they are lacking.

My last example illustrates the power of connecting public health level surveillance to individual level care. Foodborne illness is a prototype of an infectious disease in which it is important to recognize that common symptoms are actually resulting from an uncommon but important public health threat. Such recognition is important not only for individual patient management, but for addressing the outbreak at public health level.

In a project involving GE Healthcare, the CDC and the Alliance, we developed a way to take patient observations in real time, apply them against a public health rules engine maintained at the CDC, and return relevant public health alerts to the care team while the patient is still present. This principle points to a future where there is a seamless continuum where individual level data can in real time be used to identify significant trends for action not only at the indivdiual level, but at health institution/system, community and public levels.

I want to end by returning to the care model, making the point that technology is only an enabler, and can only be applied within the larger ecosystem of Health System design and policies. The current system is focused on the reimburseable medical intervention, generally delivered at a health institution, and we so far have developed and supported technology to enable this model. However the disruptive force of rapidly developing consumer technology, coupled with the experience of consumers in other areas of their lives and the insight that the majority of activity that affects health occures outside our insitutions demands that we alter our prespective.

For health care to advance, enabled by the potential of technology, requires that we expand our thinking, and alter our reimbursement policies, and our investment in community based primary and preventive health. The barriers to innovative technology enabled care are more based in these factors than the technolory or our willingness to innovate.

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