# Written Testimony to the NCVHS - April 30, 2009

# Purpose: To help define and clarify the term "Meaningful Use"

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While others have testified on the definition of the term "Meaningful Use", it is critical to analyze why use has been so low and what this definition and certification can do to drive broad adoption.

The HIT industry has been developing electronic heath record solutions for over 20 years. But as we sit here in 2009, the vast majority provider organizations have not fully implemented electronic health records. Why? To get to the core reasons, we should look outside of heath care at technology adoption in general.

The first reason is that EHR's have not "Crossed the Chasm". The natural history of technology adoption proceeds in stages: the early, the mainstream and the laggards. Geoffrey Moore describes the challenge of moving from the early to mainstream adoption as "Crossing the Chasm". With the low level of EHR adoption (e.g 1.5% in US acute care hospitals), clearly EHR solutions have not "Crossed the Chasm" to achieve mainstream adoption.

The challenge of "Crossing the Chasm" is that the solutions developed by vendors in partnership with their early adopters are often too complex and thus too expensive. This is because early adopters are well funded, innovative and comprehensive in their product vision and requirements. They design for the 100% case, where all potential requirements must be considered. Thus, the result are complex solutions that the mainstream see as "too much", too complex and too costly (e.g. the Newton vs. The Palm Pilot). The early adopters also believe that you must deploy the comprehensive solution, they see it as the holygrail. There is a fear that if customers don't do the whole thing right off they will never get there. Well, the iPhone blows the vision for the Newton away.

In HIT, early adopters have developed the concept of the "full-blown EHR" which while it may be their holy grail has not been widely adopted. The CCHIT certification has only furthered this problem by mandating this early adopter complexity in hundreds of certified EHR features and functions. Certification in support of "Meaningful Use" should not be based on features provided by vendors, it should be based on the successful implementation and successful safe 'Meaningful Use" of the technology.

The second reason is that the proprietary software vendor business model does not serve the mainstream market well. Proprietary SW model sells licenses for software and services for implementation and maintenance. Their business model is based on the customers' dependence on their code. The more time and services you need the more money they make. Complexity is good. Project extensions are routine and are the customers' fault. Challenging interoperability is a big revenue opportunity. Vendor-lock is a business model.

The service business model is better suited for mainstream technology customers who often do not have the capital or resources to 'own' their own technology or do they want to. They want services they can pay for out of operations budgets and someone to partner with them on results. Vendors sell software while mainstream adopters need help getting "meaningful use". Vendors do get paid more for adoption or results. Service companies must earn their money everyday. This is why Redhat has the highest customer satisfaction in all of high tech while Microsoft does not.

In the customer relationship management (CRM) industry, Seibel sold complex software to the early adopters. Then Saleforce.com provided a much simpler more adoptable flexible solution as a service, which was affordable by the mainstream. Now the open-source company, SugarCRM is driving the price points down to where these solutions are affordable and useable by any sized organization. This shift is occurring in HIT. In West Virginia, the University of WV is implementing a ~$90 million EHR for its 600 bed hospital and clinics while the West Virginia Department of Health has deployed and open source EHR for 750 beds for ~$10 million.

The final reason is that the proprietary model does not support collaboration and customer control. Health care is collaborative. Interoperability requires collaboration. Attaining "Meaningful Use" requires customer control.

The open source and service oriented business models are the needed disruptive innovations that will leapfrog health care forward. As Clayton Christensen defined in the Innovators Dilemma: "A disruptive innovation is a technology that brings a much more affordable product or service that is much simpler to use in the market." "and so, it allows a whole new population of consumers to afford to own and have the skill to use...., whereas historically, the ability was limited to people who had a lot of money or a lot of skill".

Driving "Meaningful Use" into the mainstream will be supported by:

- Certifying on adoption, efficiency, interoperability, quality, not CCHIT
- Certifying implementations not codebases, the use of the tool, not the tool
- Assuring an level field where open source can compete on cost, collaboration and control
- Leveraging VistA and RPMS EHR as public assets and as a public utility
- Adding reform supporting billing for quality to the 2011 incentives

These actions will allow a service industry to develop that helps providers get to "Meaningful Use" and quality care. Providers will have the money and opportunity to invest in getting use and to their desired results.

Thank you for your efforts and service.

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