

## SECTION SEVEN

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### INFORMATION TECHNOLOGY IMPLICATIONS FOR RURAL HEALTH

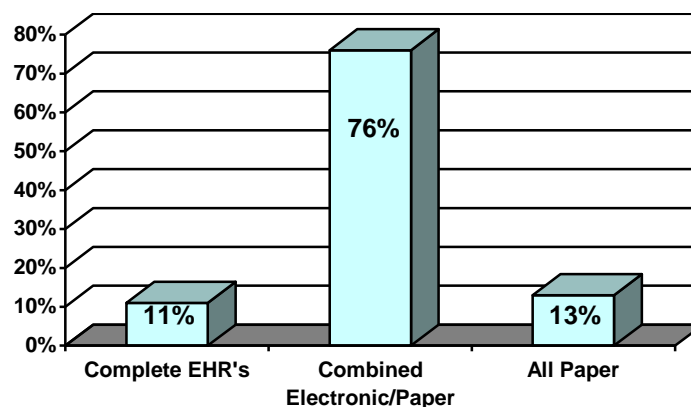
**Initial Statement** - Health information technology (HIT) has the potential to revolutionize the delivery of health care. This section will include basic information on three related areas of Information technology (IT): 1) Electronic health records (EHR), 2) telemedicine, and 3) health information exchange (HIE).

#### Electronic Health Records

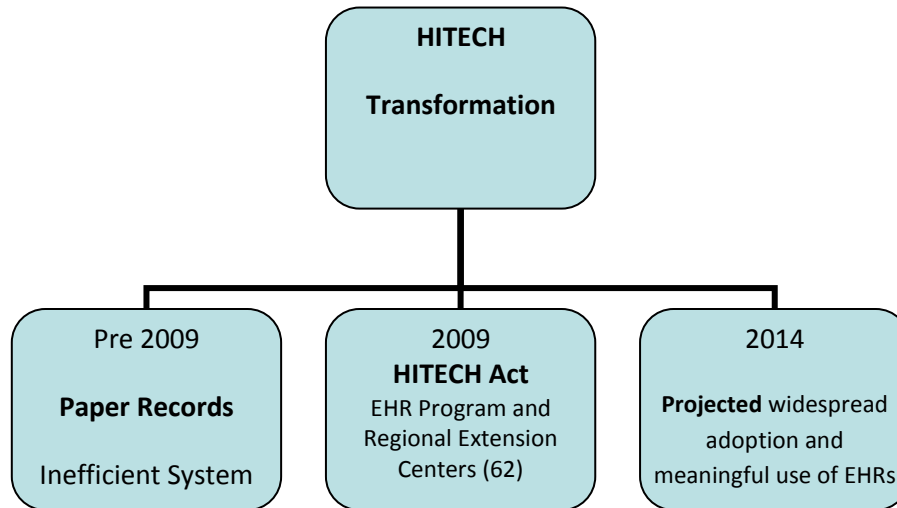
The American Recovery and Reinvestment Act (ARRA) of 2009 and the Patient Protection and Affordable Care Act of 2010 (ACA), revealed the importance of electronically generated data for improvements in health care quality, efficiency, and overall population health. While advances in information technology (IT) hold great promise, at the beginning of 2010 less than one third of critical access hospitals used IT for clinical health purposes. Adaptation of IT to HIT includes sufficient workforce (IT technologists), capital, and buy-in by key health care providers. A December 2010 survey report by the Centers for Disease Control and Prevention (CDC) discussed electronic health record (EHR) use concluded:

- 24.9 percent of office based physicians had access to basic EHR while only 10.1 percent had a fully functional system <sup>113</sup>.
- 1.5 percent of U.S. hospitals had a comprehensive electronic records system, an additional 7.6 percent had basic electronic patient care systems and only 17 percent had implemented computerized physician order entry (CPOE) system for ordering medications <sup>114</sup>.

**A 2009 survey  
of Iowa  
Hospitals**  
(Source: IA  
Foundation for  
Medical Care)



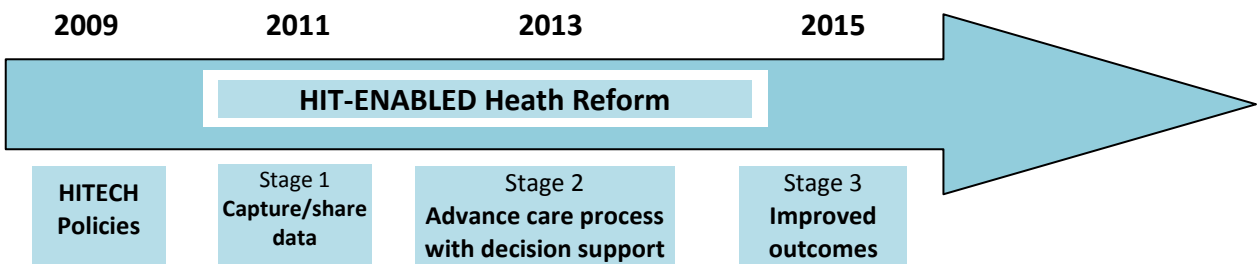
The catalyst for health information technology transformation of the Health Information Technology for Economic and Clinical Health (HITEC) Act of 2009 is transformation is visualized below.



CMS initiated the terminology “meaningful use” (MU) as a guide for the criteria to ensure EHR would be implemented uniformly across the nation and that systems would be used to improve patient care. Qualified health providers, hospitals and clinics that complete activities related to MU receive financial incentives. Likewise, Medicare patient care reimbursements will be decreased for those who do not participate. The principals of MU are<sup>115</sup>:

- Improving quality, safety, efficiency, and reducing health disparities
- Engage patients and families in their health care
- Improve care coordination
- Improve population and public health
- Ensure adequate privacy and security protections for personal health information

**Meaningful Use Rollout: Increased Requirements over Time**



Adapted from: IA Foundation for Medical Care April 2011

**Electronic Health Records Challenge** - The Robert Wood Johnson Foundation and partners completed a study *Health Information Technology in the United States*. The 2010 report was intended to reveal the implications for HIT related to health reform. One the key findings relevant to rural health was:

- Critical access, small, public, non-teaching, and rural hospitals were the least likely to have adopted even a basic EHR. (This is not necessarily true for critical access hospitals that are part of a larger health care system.)

It may be more challenging for rural based hospitals and clinics to fully convert to EHR. The barriers are defined in the table below:

Table 1

<b>Financial</b>	<ul style="list-style-type: none"> <li>▪ Costs of system</li> <li>▪ Provider and staff productivity</li> <li>▪ Uncertain of financial incentives</li> </ul>
<b>Technical</b>	<ul style="list-style-type: none"> <li>▪ Lack of computer skills</li> <li>▪ Finding the right EHR system for size of hospital/clinic</li> <li>▪ Trained IT staff</li> <li>▪ Information overload</li> <li>▪ Adequate broadband capacity</li> </ul>
<b>Organizational Change</b>	<ul style="list-style-type: none"> <li>▪ Disruption of workflow and productivity</li> <li>▪ Privacy and security issues</li> <li>▪ Maintaining patient centeredness and satisfaction</li> </ul>

Few who are well-informed on the issues will deny the need for adaption of information technology to increase quality of care. An American Hospital Association survey found 81 percent of the hospitals that replied to the survey plan to achieve MU. **In Iowa** two-thirds (55) of the hospitals responded they will enroll in the EHR MU initiative in 2011-2012. However, there is some speculation about the ability of all rural hospitals and clinics to complete all the required steps for the incentive payments and to avoid the CMS reimbursement penalties beginning 2015 for those providers and hospitals that do not successful achieve EHR meaningful use.

**Technical Assistance for Rural** - Realizing the unique challenges to small and rural health entities, federal agencies worked to develop several resources and guidelines. Regional Extension Centers (REC) were funded throughout the nation. **In Iowa** the Iowa Foundation for Medical Care (IFMC) was awarded the REC contract. Since, the IA REC has launched a successful effort to deliver technical assistance in rural settings with limited resources for health IT

advancement. The IA REC goal is to assist 1200 primary care providers and 87 critical access and rural hospitals. In the summer of 2011 the IDPH- Medicare Rural Hospital Flexibility (FLEX) program partnered with the Iowa REC to complete regional meetings and trainings across the state.

## Telemedicine

Telemedicine is the application of clinical medicine where medical information is transferred through interactive audiovisual media for the purpose of consulting, patient visits and remote medical procedures or examinations. In rural areas where the shortage of health professional is more prevalent, the use of telemedicine to monitor patients and deliver care is especially important. Effective telemedicine practice can increase the ability of health providers to expand their scope of care across miles.

**Telemedicine at work in Iowa** - there is a shortage of psychiatric providers, and services for children with developmental disorders. Telemedicine has paved the way to increase accessibility.

- Psychiatric services for patients can get seen in real time, with almost no delay in communication feedback. A private psychiatric clinic in Sioux City was able to begin “tele-psych” services after Magellan Health Services approved telemedicine as a reimbursable medium. Through the use of a video connection patients in rural areas with a secure internet connection can be seen by providers in the clinic without travelling to the clinic <sup>116</sup>.
- The University Hospital School (UHS) is a specialized hospital—part of the University of Iowa Hospitals and Clinics—includes a specialized interdisciplinary team that provides an ongoing telemedicine consultation service for children and youth with health and developmental disorders. This clinical service is unique in that the evaluations are completed by teams of professionals at both sites with both parents and children present. Real-time communication is achieved by using the Iowa Communications Network (ICN).
  - Economic analysis showed an average local savings to the professionals and parents) and the State of Iowa was \$971 per telemedicine session. The average out-of-pocket savings for parents was \$125 per session <sup>117</sup>.

In April 2011, Iowa Department of Public Health Director, Dr. Marinette Miller-Meeks was quoted as saying, “Telemedicine will be very important in a state like this because it is rural”. Miller-Meeks said, “With telemedicine, we will be able to do more”. The problem with the technology is that it is “expensive,” but once it is in place it can help cut down on costs and provide greater access. The Public Health Information program would put into place the infrastructure and processes to ramp up the system<sup>118</sup>.

**Telemedicine challenges** – While the benefits to telemedicine are not disputed the issues that prevent widespread adoption are similar to other technology related areas. They include:

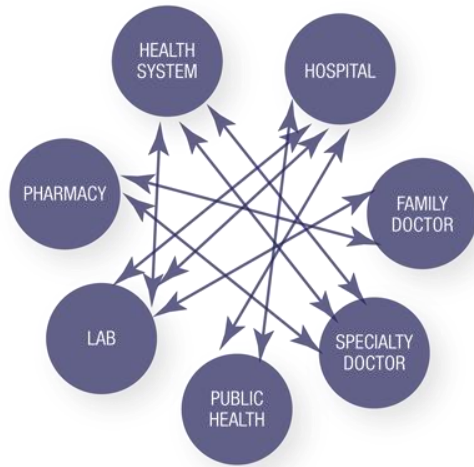
- 1) Workforce – training and costs related to reliable staff that can maintain equipment. Additionally, training and re-training for health providers.
- 2) Security – As technology improves the issues related to patient information security are resolved.
- 3) Equipment – Costs including maintenance are a challenge for some small hospitals and clinics.
- 4) Reimbursement - telemedicine is now becoming widely recognized as both cost and clinically effective. Insurance reimbursement varies from state to state. Reimbursement rates and percentages of cases that are being reimbursed for are not well tracked. In some cases Medicare is reimbursing at a rate 100 percent for submitted claims while in others the reimbursement rate is closer to 40 percent. Additionally, reimbursements for patients in bordering states present a unique challenge. Centers for Medicare and Medicaid finalized their specific/limited reimbursement proposal for CY 2011.

Until a recent Center for Medicare and Medicaid (CMS) ruling (May 5, 2011) hospitals had to undergo extensive and expensive processes to secure credential and privileges for each practitioner providing telemedicine. Rural hospitals often use consultants for telemedicine, thus the credentialing process was difficult. The new ruling removed this burden especially for critical access hospitals.

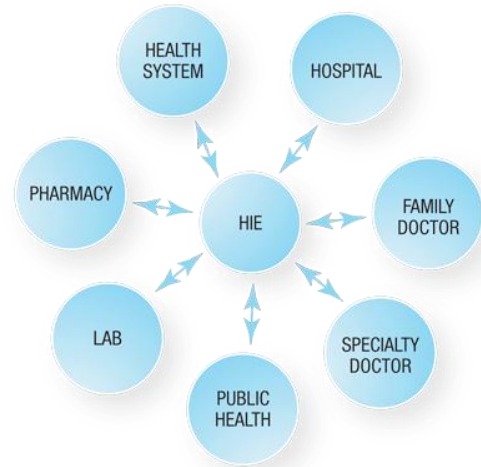
### **Health Information Exchange (HIE)**

Iowa e-Health, formed by the Iowa Department of Public Health (IDPH), is a collaboration of consumers, health care providers, payers, and others to establish an electronic health information exchange for the state of Iowa. The Iowa HIE will allow participants to

securely access vital patient health information throughout the state and beyond. (See graphic below.)



Without a statewide HIE  
Each health care provider must build point-to-point connections to transfer patient information



With a statewide HIE  
Each health care provider is connected

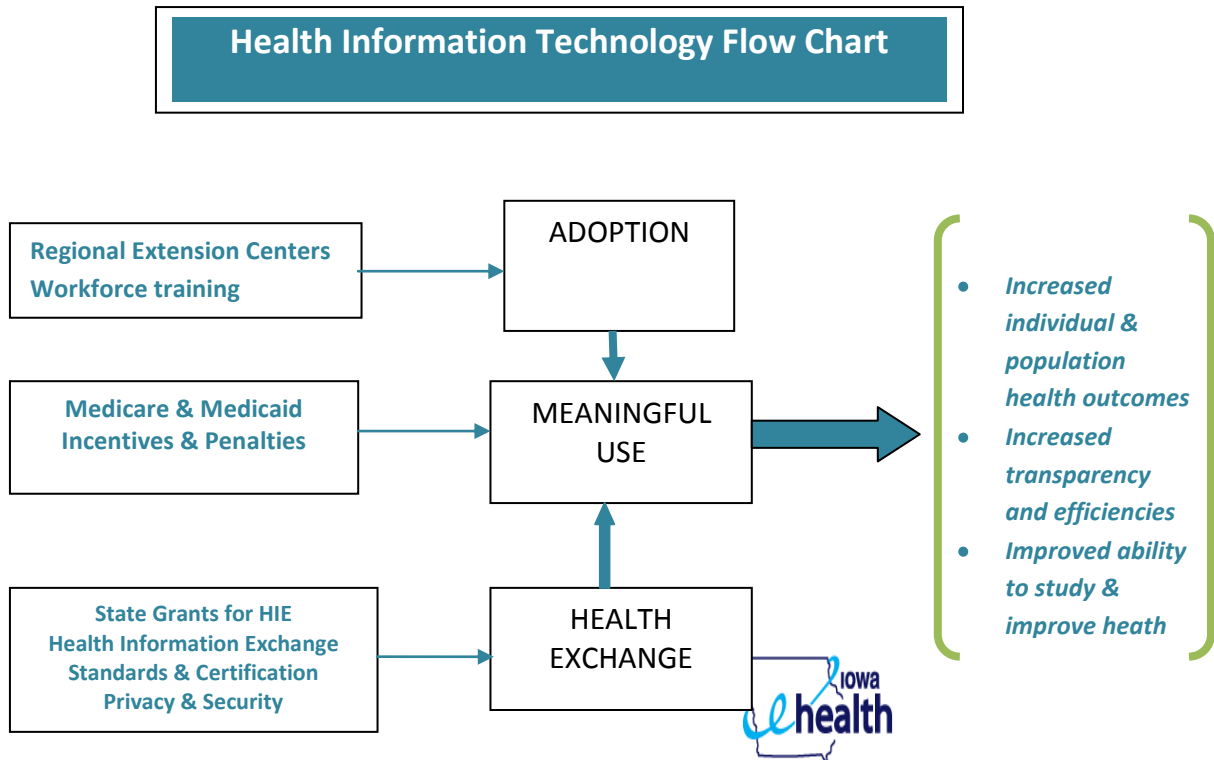
Source: IDPH: Iowa e-health webpage

IDPH – e-Health has involved over 120 individuals from 60 organizations working to ensure rural constituents are involved in HIE. Iowa HIE benefits will be especially valuable to Iowa rural residents who travel distances to get medical services by ensuring proper patient records and provider communications are available.

**Workforce** - sufficient HIT workforce is one of the most important components of the IT movement. The federal government through the Affordable Care Act implemented HIT workforce training in community colleges and universities. **In Iowa** community colleges are currently offering a six month HIT on-line certification program (non-credit), and a two year degree program. The University of Iowa offers an upper level degree in health IT. Currently other universities are working to incorporate Health IT components to their undergraduate and graduate degree programs. Rural hospitals are referring staff to the training programs to ensure they have qualified IT personnel.

**Health information technology** developed as a comprehensive coordinated system will be costly, effort intensive and will require the talents and vision of several organizations and

individuals. In Iowa the long-term benefits to rural communities and residents will culminate in real-time access to health care and information exchange. See diagram below.



Adapted from: Iowa Foundation for Medical Care April 2011

**Summary**

HIT is a rapidly advancing component of systems communication. Currently there are major initiatives funded by both state and federal government, and through the efforts of private organizations. The IDPH e-Health is the overarching umbrella for all HIT activities. In Iowa the “rural factor” related to HITECH is important because: 1) geographically (82 percent) we are a largely rural state, and 2) due in part to the large number of critical access and smaller hospitals (87) and number of certified rural health clinics (141) involved.

**Comment**

Using HIT to drive improvements in healthcare in rural Iowa will require the support of many diverse stakeholders in the health care system including practicing clinicians, hospitals, payers and HIT suppliers. State and federal funding and legislation coupled with adequate technical assistance are major factors in the successful development and implementation of health information technology in Iowa.