

# Medicaid Transformation Grant Final Evaluation Summary

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**State: Arizona**

**Grant Project Title: Medicaid Health Information Exchange Utility**

**Grant Award #: 0705AZTRA1**

**Project Timeframe: February 1, 2007 – September 31, 2010**

**Total Grant Award: \$11,749,500**

## **Summary of Grant Goals**

The goal of the Medicaid Transformation Grant was to develop and implement three major deliverables; 1) an electronic web-based health information exchange (HIE) to give all Medicaid providers instant access to patients' health information at the point of care; 2) a clinical data depository for the storage and aggregation of Medicaid member clinical information and continuity of records; and 3) a web-based electronic health record system for Medicaid providers.

## **Summary of Grant Outcomes**

To inform the design and development priorities of the HIE, professionally-moderated focus group research was conducted. A total of 157 participants in 10 Arizona counties provided feedback during 28 focus groups and completed a quantitative HIT provider survey. A sample of some of the findings from the AHCCCS HIE Provider Focus Groups includes:

1. HIE would be valuable for Arizona and there was a clear understanding of the benefits of sharing patient data through an HIE to support quality, safety, and continuity of care;
2. HIE should include all payers in the state so that records could be exchanged, not just AHCCCS members;
3. Multi-stakeholder input is essential to ensure successful adoption;
4. Data must be timely, easy to use and accessible through high-speed internet connections in all areas of the state;
5. Providers are concerned about who will bear the costs of adoption, including capital costs, training, implementation and ongoing technical assistance;
6. Seamless interoperability is essential and it will be critical for any exchange to interface with existing electronic health records, practice management systems, and systems used by hospitals, labs, radiology, and long-term care;

7. Liability and privacy issues are concerns and participants were reassured that the Arizona Health Privacy Project was starting to look at these issues.
8. The top priority features of EHR were identified as:
  - A. E-Prescribing
  - B. Clinical Encounter Management including allergies, problem lists, as well as progress notes
  - C. Eligibility Inquiry/Verification

After almost a year of development and testing, the Arizona Medical Information Exchange (AMIE) was launched first as a small proof of concept project, which evolved into a more robust health information exchange over time. The proof of concept enabled 39 AMIE certified and credentialed AHCCCS registered clinicians to identify patients, locate their relevant medical information, and view individual patient records. The proof of concept included hospital discharge summaries from a small number of Phoenix based hospitals, laboratory test results from one laboratory company, and medication history from a managed care pharmacy consultant.

The AMIE project expanded to include more users and more data types. By December 2009 there were over 7.6 million records available through AMIE with over 3.1 million patients in the AMIE Master Patient index. There were 10 different types of records available through AMIE including Cardiac Study/Report, Consultation, Emergency Reports, History and Physical, Operative Reports, Procedure Notes, and Study Notes, plus the proof of concept starter records.

By the time the AMIE project ended in December 2009 it had seven different hospitals, a pharmacy medication history provider, and one lab company exchanging health information through the AMIE web portal.

The AMIE project had been designed, built and deployed using three principles: 1) use of open source wherever and as much as possible; 2) apply national standards; and 3) focusing on clinical information being made available at the point of care for treatment. The project team was a mix of consultants from Computer Sciences Corporation (CSC), FOX Systems and Datalink Software Consultants. Hardware, software, use cases, design specifications, software development and implementation of the HIE were all funded through the grant. Every aspect of the HIE was specified through a methodology of requirements that were then gathered and developed through use cases and detailed specifications. A stringently adhered-to quality assurance process was implemented. AMIE used a combination of open source software applications, internally developed software and off the shelf products.

The AMIE team had to address through policies and procedures HIE operations processes, procedures, privacy and security issues. These included patient notification, participant management and authentication, data submission, auditing and compliance, and security requirements.

Through the positive experiences the data partners had with the AMIE project, they formed a non-profit board to continue the work of the exchange once the transformation grant funds were completed. The AMIE Board of Directors approved a merger with the Southern Arizona Health Information Exchange (SAHIE) Board, which was in the process of forming a Tucson-based

health information exchange. The new organization, called the Health Information Network of Arizona (HINAZ), met formally as a new board in July 2010 and is positioning itself as a health information organization (HIO) to oversee the development of a state level health information exchange.

## **Summary of Grant Lessons Learned**

The Medicaid Health Information Exchange Utility grant had a number of successes. Besides becoming operational and exchanging health information, the project included the development of data sharing agreements and data use agreements that specified the requirements and responsibilities of all of the data partners including the obligations of the HIE. One contract was created to cover whether the participant was sharing data, accessing data, or both. This agreement was based on the Markle Foundation for Connecting for Health and work was performed by the Arizona Health-e Connection Legal Workgroup, and then further refined by the AMIE project team to support AMIE's requirements. This work is being shared with all states interested in HIE through the National Association of State Medicaid Directors and the Office of the National Coordinator for HIT.

The AMIE team was able to secure provider buy-in and use of the web-based exchange because the team listened carefully to provider needs. The AMIE team built and implemented a simple web browser-based viewer through which the clinicians could access the information available through AMIE once authenticated with a provisioned account. A strategy for provider adoption was developed and the team was able to be flexible enough to accommodate all of the different workflows in the practice settings. The team worked with the clinicians to understand their work habits and engineered how the AMIE Viewer fit into their processes. Once providers started to use the information, they quickly found how valuable having an HIE was for them.

Below is a small sampling of the feedback from providers:

### Narcotics Seeking and Diversion

From two different Emergency Department Physicians:

- "...the biggest benefit has been with drug diversion and seeking"
- "A patient visited 32 different doctors and had been prescribed narcotics on average every three days before eventually presenting to the ED. I was able to intercept and provide rehab/social services to this patient. This tool has and will make a world of difference in bettering patient care and overall care at the ED level."

### Adverse Drug Reactions

From an Internal Medicine Physician: "An elderly patient that I had seen for a few years always brought a hand-written list of meds. AMIE showed that she was taking an MAO inhibitor, which was not on her list. This antidepressant medication has many serious medication and food interactions. I had no ideas she was taking this medication. I was able to contact all of her

consultants and assure that her other prescriptions were safe, and that she is adherent to the dietary restrictions.”

### Unnecessary Admits and Procedures

- From a Gastroenterologist: “AMIE had proven useful for not ordering an additional CT scan on a patient who presented shortly after an admit to the hospital.”
- From a Pediatrician: “Discharge summaries are very helpful. Patients often cannot tell you what hospital they were in and in general are poor about providing medical history.”
- From an Emergency Department Physician: “I was able to confirm that my patient had a cardiac workup within 90 days and was able to avoid an admission because of it.”

The high level of acceptance and the positive feedback by the provider community showed that the health care delivery community is ready for this change if managed and implemented properly. A project evaluation was conducted by the University of Arizona, College of Pharmacy that focused on the initial AMIE three-month Proof of Concept which had 29 Phoenix-based providers affiliated with three major hospital systems who practiced in emergency departments, outpatient clinics, and private offices. The pilot group was equipped with the web-based access to medication history, recent laboratory test results, and hospital discharge summaries across the systems.

AMIE users were required to commit time to participate in training and feedback meetings. A sample of the Summary of Results includes:

- 71% of respondents perceived information retrieved from AMIE saved them time when providing care. AMIE had the most perceived impact on clinical decisions in the emergency department and internal medicine groups;
- 71% of participants perceived AMIE increased patient safety;
- Medication history was perceived as the most useful record type because it was the most comprehensive of the three types of data. The most frequent barrier to using AMIE was the limited set of clinical data available.

### **Other Lessons Learned from AMIE include:**

The AMIE team learned that by starting with a small number of record types, data providers, and practitioners accessing the data, the project was able to succeed by working out problems, and through this process the team was able to build trust among the users. One significant finding of the HIE work was the length of time it took in order to finalize contracting. Large amounts of education on core concepts of HIE/HIT for the staff involved in the project, but also staff in the legal departments and service purchasing divisions of the data providers, were needed before contracts could be finalized. This education meant that it took much longer than originally anticipated to complete contracting with each of the data partners.

The AMIE staff recognized that once the relationships existed, larger scale HIE could be built and deployed. The project leaders learned that the existing HIT capacity in each of the data partners own organization is limited, and that facilities and providers have to support their own enterprise systems first before they can engage in HIE. Across all institutions it was recognized that HIE interoperability is still a long term goal. Privacy and security will remain two of the biggest challenges to any successful HIE.

### **Electronic Health Record Purchasing and Assistance Collaborative (PACeHR)**

Recognizing that providers would need help in adopting HIT that could meet their clinical needs and assistance in selecting technology solutions, the Purchasing and Assistance Collaborative for Electronic Health Records (PACeHR) was formed in 2008. Its mission was to “foster EHR adoption and information sharing by leveraging web-based technologies, economies of scale, aligned metrics and strategic partnering.”

PACeHR was developed starting with a concept and charter, then the team went through an assessment of needs of providers and requirement gathering, translating these requirements into a solicitation and contract with vendors for electronic health records. The PACeHR team created and implemented a transparent community selection process which selected and negotiated contracts with several vendors. By June 2009 the PACeHR project established itself as an independent non-profit organization and recruited inaugural subscribers for a pilot program to evaluate its approach.

By the end of the grant in 2010, the lessons learned from the PACeHR pilots are being shared through the ONC Regional Extension Center grantee, Arizona Health-e Connection.

PACeHR key benefits:

1. Standard pre-negotiated master contract, end use license agreement and provider contracts;
2. Certified, web-based EHRs chosen by Arizona clinicians;
3. Affordable, comprehensive monthly subscription;
4. Interfaces with core services providers;
5. Vendor guaranteed “Meaningful Use” certification;
6. Discounted hardware, software, services, loans;
7. Pre and Post-Implementation assistance;
  - A. Needs assessment and workflow re-engineering;
  - B. Training and implementation assistance;
  - C. User Group and Peer Network;
8. Collaborative measures, reports design, and maintenance, with streamlined delivery.

### **Medicaid Transformation Grant Lessons Learned**

Practitioner and public understanding of which health information is electronic and what and how it is being shared is poor. Much work needs to be done to involve all of the diverse disciplines needed to support HIE. Senior leadership is critical to avoiding duplication of services and infrastructure when implementing HIE.

Finally, privacy and security issues are key for provider protection and consumer buy-in; there are significant amounts of work needed to educate stakeholders about current barriers and solutions to HIE. Legal working groups focused on barriers to exchange were critical to enable the Medicaid Transformation Grant data partners' participation by designing model participation agreements. Understanding the current limits of medical records laws and practices and identifying legislative and policy solutions for HIE are still needed federally and at the state level.

While the Arizona HIE Utility and PACeHR were grant funded through CMS, there were serious efforts made to review and analyze business models for HIE taking into account the services an exchange would provide, balanced against the cost and the derived value of delivering those services.

This work has to continue in our state with the Health Information Network of Arizona Board of directors and the Regional Extension Center grantee, Arizona Health-e Connection.