

***Grant Final Report***

**Grant ID: 1P20HS015364-01**

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**Health Improvement Collaboration in Cherokee  
County, OK**

**Inclusive dates: 09/30/04 - 09/29/05**

**Principal Investigator:**

Mark Jones

**Team members:**

Brian Woodliff<sup>\*</sup>

Melissa Gower<sup>†</sup>

Linda Axley<sup>‡</sup>

Connie Schlittler<sup>§</sup>

Edwin McLemore<sup>\*\*</sup>

Lori Timmons<sup>††</sup>

George Foster<sup>‡‡</sup>

\* CEO; Tahlequah City Hospital

† Cherokee Nation Health Services

‡ Cherokee County Health Department

§ Bill Willis Community Mental Health and Substance Abuse Center

\*\* Hastings Indian Hospital

†† CEO, Northeast Oklahoma Community Health Center

‡‡ Northeast State University

**Performing Organization:**

Tahlequah City Hospital

**Project Officer:**

Patrik Johansson, MD, MPH

**Submitted to:**

**The Agency for Healthcare Research and Quality (AHRQ)**

**U.S. Department of Health and Human Services**

**540 Gaither Road**

**Rockville, MD 20850**

**[www.ahrq.gov](http://www.ahrq.gov)**

# Abstract

**Purpose:** “Develop an effective HIT system that can be replicated and serve as a model of community cooperation.”

**Scope:** Develop integrated health care system across traditional boundaries; Enable community to provide health services across boundaries; Improve quality of healthcare and increase patient safety; Identify of key health issues through a data base integration system; Ability to describe population health in detail and with current data, leading to targeted strategies aimed at improving health outcomes; Increased funding opportunities through infrastructure development

**Methods:** The network worked toward problem decomposition by developing a system of independent sub-goals to determine work needed to combine results into sub-plans. A classical planning environment was used. The network had to determine observable, deterministic, finite, static, and discrete environments of the project to keep within relevant ongoing actions. Heuristic functions were observed. These functions reviewed effects of planned actions/goals and made educated “guesses” to determine actions needed to resolve or achieve goals. Members participated in formal needs assessments to identify a responsive HIT system. Members facilitated meetings with outside agents/agencies to access “Best Practices”, HIPAA Compliance, system development and general resourcing for achievement.

**Results:** Needs assessment conducted relative to available resources and skills; Plan formalized for Community Health Information Network; A Business and Strategic Plan in place; Clinical system integration issues identified and addressed; Interagency and community-based governance model developed; Barriers related to shared information systems addressed.

**Key Words:** Planning, integration, shared infrastructure and network development

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# Final Report

## Purpose

**Objectives of Study.** Development of a plan for implementation of a health improvement infrastructure that can be replicated in other communities where similar groups are partnered together.

## Scope

## Background

The entities comprising the Health Improvement Collaboration consist of health related and health safety net member organizations located in North and Eastern Oklahoma. As such, they provide a substantial amount of care to uninsured, underinsured, and Medicaid patients. The collaboration is unique in that it consisted of Native American and non-Native health care systems and represented all racial demographics of the area through key partnership organizations.

The collaborative partners requested AHRQ to fund activities in which the partners engage in planning a HIT infrastructure. The infrastructure was to be determined through development of a information-sharing agreement, development of a sound business and financial plan for implementation, conducting assessments required to determine an appropriate information architecture, activities to determine existing and needed (most appropriate) health information access and exchange systems, and to further assess existing computer networks and available hardware, software, and personnel. The noted activities were planned to assist in the development of a HIT infrastructure that would lead to full HIT implementation.

## Context

The collaboration was broken down into three original sub-projects:

1. Development of a Nurse Helpline
2. Development of an appropriate Data Exchange between collaborative partners
3. Determine a Best Practices Approach for implementation of HIT across multiple agency boundaries

Four taskforces were developed:

1. **Planning** (also the projects Executive committee): Provides support and direction concerning all aspects of the project. Partners committed to time and advisory capacity on behalf of their representing agency.
2. **Clinical**: Monitors and advises on software development, rationalizes clinical issues, advises on common medical terminology issues, deals with data security issues, and oversees quality monitoring and improvement issues.
3. **Privacy**: Works with software development to monitor privacy compliance, issues surrounding informed consents, and is involved in development of the data exchange agreement process.
4. **Technology**: Works to develop software standards, data exchange processes, determine hardware needs, personnel selection, and monitoring of the HIT specific components of the planning project.

## **Settings**

Planning activities were conducted and partners learned through a variety of settings: taskforce meetings, attending AHRQ-health conferences, web casts from the AHRQ Resource Center, internet materials, talking to vendors, and use of consultants (e.g. Dr. Braithwaite and the Resource Center).

## **Participants**

### **Key Partners:**

- Tahlequah City Hospital (lead agency)
- The Cherokee County Community Health Coalition
- The Cherokee County Health Services Council
- The Cherokee Nation Health Services
- Hastings Indian Medical Center
- The Cherokee County Health Department
- The Northeastern Oklahoma Community Health Centers
- Northeastern State University

**Key Staffing:**

- Mr. Mark H. Jones , Principal Investigator
- Mr. David McClain, Administrative Oversight
- Mr. Jim Berry, Business Development
- Ms. Gloria Hoover, HIPAA Compliance and Performance Improvement
- Consultants: A number of independent consultants were used in the areas of Legal, HIPAA, Computer Technology, and Project Evaluation

**Incidence**

Collaboration partners insist this project is highly significant and addresses an important gap in health care services. Tribal and non-tribal systems currently work separately, often serving patients that cross provider boundaries. The planning grant provided an opportunity to develop a system that can be replicated across the nation as a model of community cooperation to improve health outcomes for all people through HIT diffusion and adoption. The effect, upon implementation, will be to realign expectations, redefine collaborative paradigms with regard to the combination of Tribal and non-tribal HIT systems. The results will have the potential to impact other rural communities, especially those with a significant Native American population. Throughout the planning process, partners met on a monthly basis to review progress.

**Prevalence**

It is a widely accepted premise (in community health care) that in large part, and more specific than the general population membership, low-income, minority, women, children, elderly, and individuals with chronic needs have greater limited access to quality and affordable health care resources. As such, increasingly, individuals are seeking services through a community's health safety-net infrastructure. The burgeoning demand, across the U.S., from growing numbers of underinsured and uninsured make it increasingly critical that communities conduct planning and implementation of projects and programs that utilize available resources effectively and efficiently.

# Methods

## Study Design

To assure appropriate and realistic outputs as a result of the Collaborative efforts in planning, many design modes were reviewed for the purpose of the planning project and have been subsequently employed in development of the implementation processes of the planned project:

- Usability as an outcome: development of a web site and associated applications that are usable for general community members;
- Usability as a process: a methodology or approach (usually called "user-centred design") has been employed in development of the HIT infrastructure plan;
- Usability as a set of techniques: usability testing, contextual enquiry, heuristic evaluation have all been employed in development of measurable outputs as a result of the planning phase. These have been employed to determine implementation processes of a HIT infrastructure that will directly result in measurable achievements.

## Data Sources/Collection

The Clinical and Information Technology Taskforces (sub-committees) reviewed a multitude of different data sources (local, regional, state, and national norms) and collected data (through survey processes) from each of the partner agencies to develop a “systems approach” relative to the studied components of HIT implementation processes and planned outputs.

## Interventions

To assure the integrity of progress through the study of potential planning outputs, interventions were employed relative to the nurse line previously planned to be implemented as a result of the planning project. Through systematic study of cost and provider (physician) feedback, it was determined that this particular component would be very expensive and not supported by physicians. Through survey processes, providers communicated a strong concern that this type of resource would result in further splintering care for individuals accessing this resource and that the current liability costs are prohibitive. Further, more than 70% of clients (surveyed through partner member organizations) reported they want a single source of health finder. A majority of those surveyed reported a need to respond to the existing fractured system of healthcare.

This information required the Collaborative to determine an intervention to result in a more appropriate response to the needs of those dependent upon the healthcare safety net.

## Measures

The planning phase of the project included tests, scales, questionnaires, and measures accessible to virtually anyone. Some of the most common sources of these measures included: partner surveys and surveys of partner agency patients, as well as community surveys. In addition, the Collaborative partners relied heavily on the Regenstrief Institute to determine best practices approaches already in place. The measures resulted in appropriate development of implementation goals and measures that will result in determining successful outputs.

## Limitations

Planning limitations were specific to financial costs related to identified components, addressing HIPAA compliance issues amid partnering agents, and issues related to AHRQ's oversight (often difficult to get timely responses to questions and often spent a great deal of time responding to additional requests for further information).

# Results

## Principal Findings

Through the four taskforces (planning/executive, clinical, privacy, and technology) the following principle findings were determined:

- Nurseline: Not feasible due to cost, lack of provider and public support, and issues related to liability;
- Data Exchange: HL7 is viewed as a positive in relation to process; integration vendors not positioned to “plug into” existing systems as they are currently in basic development phases; there is no existing clearinghouse for vendors; EHRs for small physician offices have not been found to be reliable on a small scale; and HIT holds potential for effective approach to gather public health research information, as current public health data is at least two years old and difficult to query;
- Privacy: HIPAA does not prevent exchange of patient data for treatment purposes and does not constitute research; use of an active consent from the user appears to be the most appropriate approach for data exchange – currently most systems are passive consent based.
- Practice research: Current best practices using HIT appears to be narrow focused on things like getting an aspirin in the event of a heart attack. Large scale best practices for cost effective prevention is also limited. It was determined that there is a tremendous need for a cost effective review of prevention practices that can be implemented on a large scale and that HIT holds the potential to be the best approach to meeting this need.

## **Outcomes**

The principal outcomes were that there was a simultaneous need for three integrated services in order to impact the health of the population. The four taskforce groups then developed the three basic elements which can be accomplished by health information technology. These included improving access, sharing key patient information through electronic patient data exchange, and developing and deploying cost effect prevention research on a wide and consistent scale.

## **Discussion**

The four taskforce groups consisted of over forty individuals who contributed their time to the project. This was a very rigorous process to evolve these models over a six month period. A key element was to assure that privacy rules would not prevent these services from occurring. Dr William Braithwaite, M.D. Ph.D., who was linked to the project through the AHRQ Resource Center, met with the partners in Tahlequah and his assurances that these types of exchanges are permissible under HIPPA was extremely helpful.

## **Conclusions**

It is clear from our taskforce work that provider agencies and physicians want to utilize technology to improve their practices. At the same time many of them have had negative experience with the rollout of technology. Providers need something clear, simple, easy to use, and fast, if they are going to support the system.

It is also clear that patients want and need assistance in finding medical services. This was made surprisingly clear from our waiting room survey, particularly since these were people that had already found services and were in those waiting rooms.

Another issue that was made clear in our research review that there appears to be a disconnect between the amount of medical services available in an area and the general health of the population. We attribute this to lack of coordinated, continuous, and evidence based prevention and care practice across the population.

It is also clear from our work that one of the primary needs to improve our public health system is the widespread use health information technology. This will aid in developing population health and mass care.

## **Significance**

We believe because our work cuts across federal, tribal, community, hospital, public health, and mental health, that we have a very unique and wide view of healthcare not only in our area but also in the United States. We believe our work has identified several significant points.

- First, health information technology is needed to develop a health care system, as opposed to a series of individual providers who provide individual services.

- Second, public health is in serious need of a method for better real time estimates of population health and also need a method for mass immunizations in the event of bioterrorism or a pandemic outbreak.
- Third, that mental health issues are split out from medical services in our country, but they are very much a part of the disease process and need to be reintegrated.
- Fourth, individuals are having difficulties finding medical services due to the splintering of medical care and the methods of payment for those services and want a central point of contact for those services.
- Fifth, there is a lack of coordination, science, and consistency of effort across providers in prevention services and that health information technology is critical in the development of common approaches that may have better population health outcomes.

In addition, as we built the taskforces to accomplish this health information technology project, many of the key clinical, technology, administrative, and privacy staff in the various agencies had never met one another before. As they got to know one another new ideas began to evolve between them involving ways in which they could work together. One implication from this work is that health information technology projects will benefit our health system by getting the providers together and building relationships across traditional boundaries.

## **Implications**

It is very clear to us; as a result of our work, that we need to build a health care SYSTEM in the United States and that health information technology is the key infrastructure to accomplish that. We would argue that we have to some extent underestimated the value of health technology as we have to some extent limited its view to patient safety and cost issues. We also feel HIT is vital to improving population health, population health assessment and tracking, pandemics, mental health, disease management, and interagency care coordination. We have also discovered a major side benefit of HIT projects is to bring organization functions such as IT, privacy, and quality together across traditional organizational structures.

## **List of Publications and Products**

Not applicable.