

ASET Grant for Unconnected Healthcare Providers
From
Copper Queen Community Hospital

David Chmura, CIO Project Leader dchmura@cqch.org 520-432-6482

November 13, 2012

Requesting \$50,000

I. PROJECT DESCRIPTION

Copper Queen Community Hospital (CQCH) is a critical access hospital located in Bisbee, Arizona. With the exception of Douglas, which is a border town of about 19,000 people, CQCH and its clinics are all located on two lane highways, with a sparse population base, scattered over miles of desert between mountain ranges called sky islands. The hospital's service area is approximately 2500 square miles. The 2010 census numbers for the populations who are within a reasonable driving distance to access our Rural Health Clinics (RHC) are listed below. Bisbee is 59% Anglo and 36% Hispanic with 23% below the poverty line and 21% over 65 years old and 17% under 18 years old. Douglas is 13% Anglo and 83% Hispanic with 34% below the poverty line 12% over 65 years old and 28% under 18 years old. Many are uninsured and underinsured. Because of the hospital's proximity to the border, it is often called upon to serve Mexican nationals who have very little access to quality medical care in their own towns, and present at CQCH's emergency room, as a "compassionate entry". Most do not pay for their care. The hospital is in a Medically Underserved Area and a Healthcare Professional Shortage Area. The financial strain of the uncompensated care has led to a curtailment of hospital resources and the closing of some services in the recent past.

	Zip	
City	Code	Population
Bisbee	85603	7155
Douglas	85607	18925
Douglas	85608	2305
Elfrida	85610	1333
Hereford/Palominas	85615	9413
McNeal/Double Adobe	85617	1277
Naco	85620	897
Pirtleville	85626	1021
Sierra Vista	85613	5601

The nearest hospitals are 30-35 miles away, but frequently cannot provide necessary services like the tertiary hospitals that are located 120 miles away. We need to transfer a variety of patients to these larger hospitals. Prior to their transfer we are in contact with these urban hospitals either by phone or telemedicine. CQCH has active telemedicine programs in trauma (University Medical Center), neurology (Mayo Clinic), cardiology (Carondelet), cardio pulmonology (Tucson Medical Center / Pulmonary Associates of Southern Arizona) and burn (Grossman at St Luke's) in the Emergency Room and is working on a pediatrics program (TMC). We also offer some of these services in MedSurg and have begun a remote cardiology program in our clinics. The use of technology eliminates the problem of distances and the availability of electronic patient data assures that remote specialists have accurate and timely data. The availability of urban specialists greatly benefits the patients who must now travel over 100 miles to receive many of these services, which is both inconvenient and expensive for them. If we can keep the patient at Copper Queen, we can save the patients the very expense cost of transport and enable them to stay close to their family.

The CQCH HIE Project will connect the hospital and its clinics to the Health Information Network of Arizona (HINAz). This will permit <u>structured lab results and Admit Transfer Discharge (ATD) data</u> to be delivered as discrete data to the tertiary hospitals in Tucson where we transfer our higher acuity patients. The average monthly transfers for 2012 are 59 patients (21 TMC; 13 UMC; 13 Carondelet; 7 SVRHC; 4 other). It will also provide immediate access to data during the critical period when the remote specialists are consulting with our local ER physicians. Currently much of this information is delivered by fax or voice or as paper in the transfer helicopter or ambulance.

Emergency Department physicians and their patients will benefit greatly by having access to prior tests and patient history when the patient presents at the ER. Should patients need to be transferred to tertiary care facilities; their information will become readily available to the physicians in these locations. There should be savings in convenience and cost to the patient with the likelihood that some tests will not be repeated since results will be visible through the interface.

Our Rural Health Clinic physicians will also be able to review the urban hospital related data of these patients when they arrive at our clinics for a visit. This will be a great step forward toward our ultimate goal which is to share patient data throughout all medical facilities in Southern Arizona in order to improve patient care and reduce duplication of cost and effort.

II. PROJECT WORK PLAN

Weekly meetings will be scheduled at 10 AM on Tuesdays to discuss issues, measure progress, and approve minutes and record attendance. Meetings will be chaired by the CIO, David Chmura. Meetings will be attended by the same staff that attends our Meaningful Use meetings: ER Nursing Manager, Surgery Nursing Manager, Nursing Director, Lab Manager, Pharmacist, Radiology Manager, Admitting Manager and the Clinics Manager. Information Technology staff in attendance will be the IT Clinics Manager and the IT Hospital Manager.

CQCH has extensive experience in developing interfaces. Currently we have interfaces to Lab Corp, Press Ganey, Arizona's Immunizations department from the hospital, e-Prescribe to pharmacies from the clinics, Immunizations to the State from the clinics, and a bi-directional lab interface from the hospital to our clinics.

We also have extensive network experience with Virtual Private Networks to Lab Corp, CPSI, Virtual Radiology, Assured Imaging, Hologic and Mayo Clinic. We have an ip phone system installed and we communicate for telemedicine using an application in the Cloud from GlobalMed. Additional technical support is provided by Sentinel Technologies, Inc. of Phoenix, if necessary.

HIE PROJECT PLAN 2013

				Completion
Project Milestones	Lead	Vendor	Start Date	Date
HIE Marketplace				
Orientation	Chmura	ASET	Mid-Jan	Mid-Jan
Purchase Hardware	Chmura		14-Jan	30-Jan
Install Firewall	Chmura	Cisco	1-Feb	14-Feb
Install Switch	Chmura	Cisco	15-Feb	16-Feb
Install WLAN Controller	Chmura	Cisco	18-Feb	20-Feb
Install Access Points	Chmura	Cisco	20-Feb	22-Feb
Security Assessment	Chmura	Clear Data	25-Feb	1-Mar
CPSI Interface Development	Cummings	CPSI	1-Feb	29-Mar
HIE Interface Development	Cummings	HINAz	1-Feb	29-Mar
Interface Testing	Cummings	CPSI / HINAz	1-Apr	26-Apr
Mid-Grant Progress Report	Chmura	ASET	30-Apr	30-Apr
Training - Hospital	Cummings	CQCH	28-Apr	3-May
Go Live Hospital	Cummings	CQCH	6-May	
Training- Clinics	Cummings	CQCH	13-May	17-May
Go Live - Clinics	Cummings	CQCH	20-May	
Measurement	Cummings	CQCH	6-May	30-Jun
Program Ends		ASET		30-Jun
Final Report Due				31-Jul

Once the required hardware is installed, configured and functioning, we will employ Clear Data to do an analysis of the security of our network. Upon completion of this analysis, we will work with HINAz and CPSI (our hospital software and database vendor) to create an HL7 version 2 bi-directional interface to deliver lab and Admit Transfer Discharge (ATD) data to the Health Information Exchange. The initial goal is to have the TMC/PASA be able to exchange our cardio pulmonary data on patients that they see via telemedicine on our MedSurg Unit and to share this data when they are transferred to TMC and then have Copper Queen Medical Associates physicians be able to view all this data when the patient returns to our clinics for a later visit.

We are also in discussion with Pediatrics at TMC to develop a pediatrics telemedicine program and eventually a Pediatrics Unit at Copper Queen Community Hospital. <u>Currently there are no pediatric beds in Cochise County and all children must be transferred.</u>

Our most successful telemedicine program is cardiology where patients frequently have telemedicine consults in our MedSurg Unit, as well as, in our Bisbee clinic. Therefore, Carondelet would become our next candidate for the exchange of discrete lab and radiology data.

III. LINE ITEM BUDGET ASET Grant Cost for HIE to HINAz

Category Personnel	Vendor	Task	Grant	сосн
Salary	CQCH	Network Support - 160 hours	\$0	\$8,000
	CQCH	Interface Support - 80 hours	\$0	\$3,200
	CQCH	Training Staff - 80 hours	\$0	\$3,200
Personnel	CQCH	Network Support - 160 hours	\$0	\$1,520
Benefits	CQCH	Interface Support - 80 hours	\$0	\$608
	CQCH	Training Staff - 80 hours	\$0	\$608
Travel				
	CQCH	Phoenix Grant Meetings - 800 miles		\$408
	CQCH	Interface - 400 miles		\$204
	CQCH	Training - 530 miles		\$265
Operations				
Hardware	Cisco	ASA 5520 Firewall	\$13,500	
	Cisco	WLAN Controller		\$3,050
	Cisco	AP-1042		\$3,500
	Cisco	3750X-POE		\$7,000
Operations				
Software	HINAz	Infrastructure		\$780
	HINAz	Administration	\$12,000	
	HINAz	RHC Access	\$1,000	\$500
	HINAz	Hospital Setup	\$12,500	
Contractors				
	Sentinel	Network Support		\$5,000
	Clear Data	Security Assessment	\$11,000	
	CPSI	CPSI Interface		\$15,000
	TOTAL		\$50,000	\$52,843

101 Cole Avenue • Bisbee, Arizona 85603 • (520) 432-5383

IV. BUDGET NARRATIVE

The Security Assessment is at price we received from Clear Data which is affiliated with the Arizona REC. We also priced this assessment from another party and chose the less expensive option.

The CPSI interface cost is an estimate. Not having seen the specific HL7 version 2 requirements for this bi-directional interface, they informed me that in their experience, it could cost as little as \$9,000 and as much as \$30,000. We have done interfaces with CPSI before and I am comfortable estimating this on the low side of a midrange and CQCH will be paying for this in the match.

HINAz infrastructure, administration, setup and RHC access cost come directly from HINAz.

Cisco equipment is quoted from Sentinel Technologies out of Phoenix who also can provide expert Cisco configuration and troubleshooting support, if necessary. The ASA 5520 firewall appliance includes an Inspection and Prevention Security Services Module 20, which will be needed to pass the Clear Data security assessment. The WLAN controller for the Access Points, the Access Points and the 3750X-POE switch are also Cisco. The PowerOverEthernet is required to power the access points and the "X" is required to connect the Emergency Room area to the nearest switch over fiber, since the distance is too long for the use of Cat5e cable.

Support and training costs are estimates. Given that our portion of the budget comes in at \$52,853, if I have over-estimated we still have wiggle room of \$27,853 over the \$25,000 that we are required to contribute. Sentinel's support is estimated for SmartNet and support incidents cost on the configuration of the equipment. Network support from CQCH is for up to 160 hours of my services dealing with the purchase, installation and configuration of the equipment and for chairing the weekly meeting on this project and attending meetings in Phoenix. Interface support for 80 hours is for interface project management and testing by Clay Cummings. There is also 80 hours for super user training and then training of the staff by Clay Cummings.

We are requesting \$50,000 from ASET to fund this project and estimate that CQCH will spend another \$52,853 to complete the project.

For the deliverables we are providing (1) a chart listing the milestones to implementing the HIE to unaffiliated organizations and will present the variance of the actual completion dates from the targeted ones, as well as, listing the issues we encounter and solutions instituted to overcome these issues; (2) demonstrate a strategic partnership with Pediatrix Medical Group, Inc. at TMC and complete the development of a pediatrics telemedicine program between our institutions; (3) exchange live data over the HIE to TMC's EPIC electronic health record.

Establishing a working telemedicine program takes time. The parties need to become familiar and comfortable with each other. Protocols need to be developed designating which patients must be transferred immediately and which patients can be retained for observation. Processes needs to be developed for delivering patient data to the remote physician, as well as, scheduling and completing the telemedicine consult and post-consult procedures for scheduling tests (if necessary) if the patient is discharged rather than transferred. It is likely, but not definite, that we can establish a Pediatrics Telemedicine Program in the designated 6 month period of the grant. Preliminary work began a few months ago when representatives of CQCH met with the Pediatrix Medical Group, Inc. at TMC. Dr. Roe, our Director of the Emergency Department, is meeting with them again the week of November 19th to continue this process. Given the need for pediatric care in Cochise County, this is a high priority for Copper Queen.

ATTACHED: David Chmura Resume; Clay Cummings Resume; Letter of support from Tucson Medical Center.