

## **A Review of the Hospital Testing Program**

By Andy Elliott – K8LE, Program Coordinator

The Hospital Antenna & Radio Testing Program was one of the core public service functions of Central Ohio Amateur Radio Emergency Service.

The program started in 2001, when then-EC Bill Carpenter – AA8EY spearheaded the effort to have dual-band antennas installed on hospital rooftops. Mary Carpenter – N8OAM (SK) led the program until about 2005, when she turned it over to Mark Griggs – KB8YMN. Mark led the program until 2010 when he turned it over to me. Throughout those years, 2001 to 2010, the program was called the Hospital Antenna Testing Program. In 2010, COTS provided “COTS Radios” for all the hospitals in Franklin County, and throughout most of their 15 county region. COARES then began testing both antennas and radios in Franklin County, and the program was re-named the Hospital Antenna & Radio Testing Program.

Throughout the years of hospital tests, a monthly report was submitted to COTS. The 65 monthly reports that were submitted between June 2010 and October 2015, indicate that 1120 tests were conducted. While I don't have records from the time when Mary and Mark led the program, there must have been at least 1400 tests during those nine years, for an estimated grand total of over 2500 hospital tests over the 14 years of the program!

Bill Carpenter has written a history of the early years of the hospital program, and it is posted on the website.

There has been an MOU in effect for many years, between COARES and the hospitals, Franklin County Coroners Office, and Franklin County Emergency Management & Homeland Security, and we have worked diligently to ensure that all the conditions of the MOU are met.

COARES leadership used a matrix called “Hospital Teams” to clarify who to send to each hospital in case of an emergency. The matrix indicates who has recently tested each hospital, who has a background check ID and which hospital requires a background check, and who has crossband repeat capability in case that is needed at a particular hospital.

For each of the 22 locations that are currently in the testing program, a datasheet was prepared, and kept current as hospital testers passed along changes as they occurred at the various locations. Each datasheet includes everything a hospital tester needs to know in order to test a location. A copy of the pertinent datasheet was emailed each month to each tester performing a test. The purpose of the datasheets is to keep each tester informed of the current information for each location. In case of a communications emergency when some hams may have to be directed to unfamiliar locations, the datasheet provides all necessary information.

Another document on the COARES website gives a complete description of the hospital testing program, including a description of the COTS Radios, why we do the tests, how to conduct a test, how to respond to an emergency, and required forms. The document is titled “The Hospital Antenna & Radio Testing Program”.

We also developed a document titled “Hospital Emergency Amateur Radio Operator” which describes the actions to take when activated for a hospital emergency assignment. Our duties and responsibilities to coordinate with the Incident Command System are clearly spelled out. Each tester has a copy of the document, and a copy is inside each COTS Radio, and it is also posted on the website.

An important requirement of the Incident Command System is the use of the ICS-213 message form for all formal messages. One of the ways to meet this requirement is to use digital communications to transmit these messages, then hand deliver a printed copy to the recipient, and then transmit the reply to the originator. Digital communications, using fldigi software, was in readiness at two locations and in the

final stages of readiness at two hospital locations. In addition, all the COTS Radio cases contain three part ICS-213 message forms in carbonless copy paper, which also meet the requirements of the Incident Command System and which do not require digital communications. A description and proper usage of the required forms is on the COARES homepage under the heading "ICS Forms Information".

In the past three years, two major studies have been conducted by COARES hams to improve the performance and reliability of emergency communications at the hospitals, FCEM&HS and COTS.

The "Simplex Hospital Communications Study" was conducted to determine the capability to communicate between Franklin County Emergency Management & Homeland Security (FCEM&HS) and each of the Franklin County hospitals, using simplex communications on 2 meters and 70 cm. The premise was that simplex communications may be necessitated by failure of local repeaters, due to storm damage or some other calamity. An objective of the simplex study was to obtain a more thorough understanding of the circumstances affecting simplex communications, including hospital antenna siting and features of the terrain between each of the hospitals and FCEM&HS. The total path loss and receive signal level was calculated and compared with actual results, for each path. As a practical benefit of this study, relay stations were identified to assure communications among all locations.

In 2015, the "Hospital Emergency Backup Antennas" study was conducted to identify various types of backup antennas or communications methods that could be used in case the amateur radio operator arrives at a hospital during a communications emergency or drill, and finds the rooftop antenna to be inoperative. All the hospitals were included and alternate means of communication were established and documented in the hospital datasheets. For some hospitals, crossband repeater was the only option, and locations needing crossband repeat, and hams possessing crossband repeat capability, were identified for rapid deployment in such an emergency. This information is included in the Hospital Teams matrix.

PowerPoint presentations of both of these studies are posted on the COARES website home page.

Monthly testing has revealed problems with antennas, coax feed lines, and power supplies within the COTS Radio cases, any of which would have led to inoperability in an emergency. In every situation, repairs were quickly made to assure that the equipment was in full readiness. COARES volunteers have participated in many hospital and airport drills, and we were activated for a recent emergency when a power failure threatened to disrupt critical hospital functions.

In summary, the COARES Hospital Testing Program has, for fourteen years, continuously assured the reliability and functioning of the COTS Radios and antennas at twenty-two critical locations within the county. We have diligently worked to assure complete compliance with the MOU, and the program has far exceeded all MOU expectations. By the regular performance of the hospital tests, the experienced core group of volunteers has been kept at a high state of readiness to respond to a communications emergency involving any of these locations, and to staff the locations that are involved in periodic drills. In past drills, we were often praised by COTS and the hospitals for our ability to provide timely, accurate information more quickly than is obtainable by any other method.

The program was concluded in November, 2015, when COTS decided to try to utilize hams who are hospital employees, citing security and HIPAA concerns.