

Michigan EMS Communications

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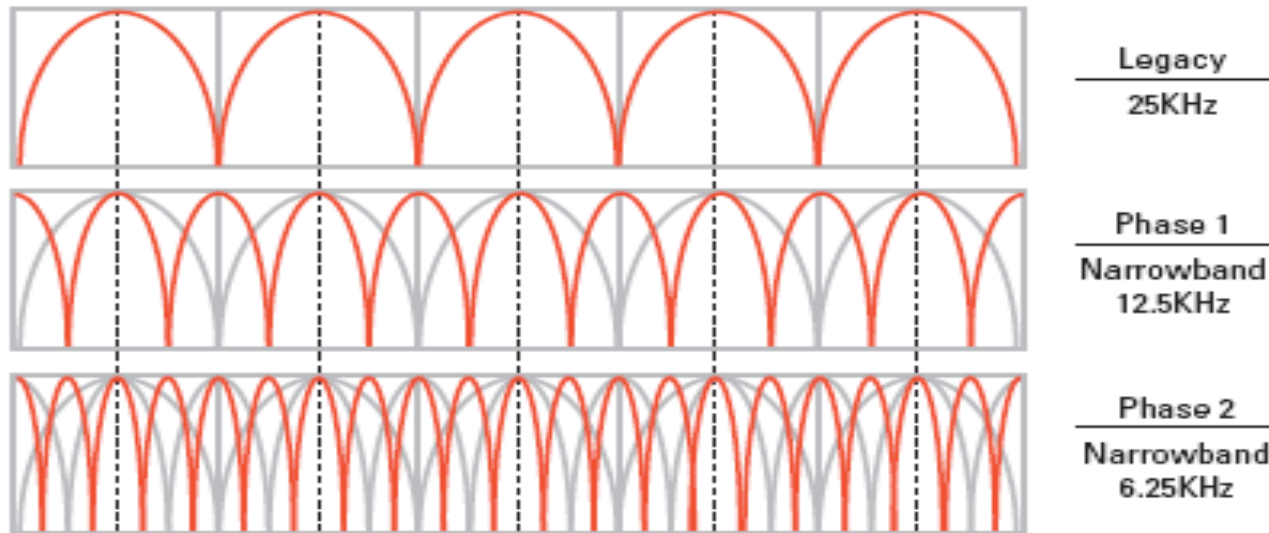
Today's Topics

- Narrowbanding
- Michigan's plan for narrowbanding
- 2010 MEDCOM Requirements for hospitals and EMS vehicles
- Use of multiple radio systems
- HIPAA and Communications
- The future – Broadband

Narrowbanding

- An FCC mandate to create more channels in the very crowded VHF and UHF bands

Figure 1. Narrowband channels allow additional channels to exist in the same spectrum.



Narrowbanding

- Most current public safety radio systems use 25 kHz-wide channels.
- The Federal Communications Commission (FCC) has mandated that all non-Federal public safety licensees using 25 kHz radio systems migrate to narrowband 12.5 kHz channels by January 1, 2013.
- Agencies that do not meet the deadline face the loss of communication capabilities.
- Agencies need to start planning now to migrate to narrowband systems by assessing their current radio equipment and applying for new or modified licenses.

FCC started narrowband rule making process in 1994.

Final transition date was set in December, 2004

Wideband operation must cease January 1, 2013

Narrowbanding

- Only a handful of frequencies are exempt
 - Designated “paging only” channels
- Planning and coordination are essential
 - New equipment may be needed
- There is some “compatibility” between wide and narrow systems
 - Wide to Narrow = distortion
 - Narrow to Wide = low volume and more noise

Narrowbanding

- FCC License must be modified to show the narrowband emission
- HERN radio systems in hospitals are all affected
- Changeover should be coordinated locally so that all public safety users transition at the same time

Narrowbanding

- Coverage Concerns
 - NB systems provide 2-6 db less effective signal than a WB system with the same hardware
 - Only an issue if your system has many “weak signal” areas
- Consultation with EMS Section or your local radio service shop if concerned

Narrowbanding

- EMS Section suggests that each MCA handle coordination of the narrowbanding process for EMS purposes in your area.
- HERN radio; UHF MED Channels; any other VHF systems used for EMS to hospital communication.
- Coordinate the change with local government services also on VHF and UHF

Narrowbanding

- Future years
 - Transition to 6.25 KHz
 - Requires digital systems
 - More expensive
 - FCC may change direction toward Broadband
 - No firm dates set for transition, but likely at least 8-10 years out
 - 6.25 does not support paging, as used today by most volunteer fire departments

Michigan MEDCOM Requirements

- Published by EMS and Trauma Systems Section
- Required by Statute
 - Unique to EMS
- Updated as needed, usually every 4-5 years
- Current version dated 2006
- Update process began Spring 2010
 - Advisory committee
 - EMS Section reviews recommendations and drafts the updated version
 - EMSCC reviews and approves
 - Final approval expected November, 2010

MEDCOM Requirements

- Few changes to Hospital radio requirements
- Highlights
 - R1.01 -A formal protocol detailing your MCA communications plan is required.
 - R1.03 -Hospital staff must be trained in use of the radio equipment
 - R1.04 -All EMS/Hospital communication must be electronically recorded

MEDCOM Requirements

- Highlights
 - R1.05 --EMS to Hospital communication may only use FCC designated “Public Safety” frequencies
 - Precludes exclusive use of cell phones or business radio systems
 - R1.07 – Dedicated telephone line required if MCA allows use of the telephone.

MEDCOM Requirements

- EMS Vehicle Standards
 - R2.01 – EMS to hospital communication must be direct, without relay through dispatch
 - R2.04 – 16 channel minimum capacity on VHF radio
 - R2.06 – Must be equipped on the HERN channel, configured to talk to at least one hospital

MEDCOM Requirements

- EMS Vehicle Standards
 - R2.07 – Must be equipped to operate on VMEDTAC channel, 155.355 MHz.
 - Used exclusively for on-scene, tactical, interoperable communication
 - R2.08 – Must be equipped to operate on the five national public safety interoperability channels

MEDCOM Requirements

- EMS Vehicle Standards
 - R2.12 – Allows the MCA to eliminate the requirement for “patient side” communication from an ALS or LALS vehicle.
 - Must be done via a formal protocol
 - State Model exists
 - Requires that certain time-sensitive treatments be allowed before any radio contact

MEDCOM Requirements

- Use of multiple radio systems
 - Larger systems can have access to many radio frequencies, systems, and coverage areas
 - Michigan Public Safety Communication System (MPSCS)
 - UHF MED Channels
 - Local or County Trunked radio radio systems
 - May be used to achieve coverage requirements
 - Must also be recorded
- All are local options and do not replace the baseline requirement for communication capability on the HERN channel

MEDCOM Requirements

- Best Practices
 - Not a “Rule”, but strongly suggested!
 - Ability for MFR vehicles to communicate directly with a responding ambulance
 - No requirement that MFR vehicle be able to talk to the hospital
 - Use of “Plain Language”
 - No “10-Codes”
 - Prevents miscommunication due to differing codes

HIPAA and radio communication

From the HHS.gov HIPAA section, “Frequently Asked Questions”

May an ambulance crew report to the hospital the patient’s condition and the treatment provided?

Answer:

Yes. The HIPAA Privacy Rule permits an ambulance service or other health care provider to disclose protected health information about an individual, without the individual’s authorization, to another health care provider, such as a hospital, for that provider’s treatment of the individual. See [45 CFR 164.506](#) and the definition of “treatment” at [45 CFR 164.501](#).

Just use common sense and discuss the minimum necessary PHI to treat your patient!

The Future

- One word.....**Broadband**
 - Terrestrial based systems
 - Satellite based systems appear to have a useful, but limited role
 - Broadband systems won't likely replace our current voice systems for several years
 - Will have the capability, but software and standards are still being defined and developed
 - Local projects under construction in 21 major cities across the nation (none in Michigan)
 - Plan is for a single, interoperable, nationwide system

Broadband

- Think “smart phone”
 - I-Phone, Blackberry, etc
 - But faster download speeds!
 - “4G” is planned using LTE
- What information could it carry?
 - Imaging studies from an ambulance
 - Trauma patient destination decisions
 - Continuous 12-Lead monitoring
 - Blood chemistry and advanced vital sign telemetry
 - Military “Battlefield” technology already exists
 - Live video from a scene or of a patient
 - With proper EMR systems, patient record data could be transferred from the patient to the ED while still enroute

Broadband

- Technology is already here
- Public Safety needs spectrum
 - Big amounts set aside during digital TV transition, most for cellular phone systems
 - 700 MHz band
 - Best coverage of any broadband segment now available
 - “D Block”
 - Set for auction to commercial users....but.....

**National Governors Association
National Conference of State Legislatures
The Council of State Governments
National Association of Counties
National League of Cities
The U.S. Conference of Mayors
International City/County Management Association**

April 14, 2010

The Honorable Henry Waxman
Chairman
Committee on Energy and Commerce
U.S. House of Representatives
Washington, D.C. 20515

The Honorable Joe Barton
Ranking Member
Committee on Energy and Commerce
U.S. House of Representatives
Washington, D.C. 20515

The Honorable Rick Boucher
Chairman
Subcommittee on Communications,
Technology, and the Internet
Committee on Energy and Commerce
U.S. House of Representatives
Washington, D.C. 20515

The Honorable Cliff Stearns
Ranking Member
Subcommittee on Communications,
Technology, and the Internet
Committee on Energy and Commerce
U.S. House of Representatives
Washington, D.C. 20515

Dear Chairman Waxman, Chairman Boucher, Ranking Member Barton and Ranking Member Stearns:

As national organizations representing state and local government officials, we request that you oppose a commercial auction of the 700 MHz D block and support legislation to reallocate the D block of spectrum to public safety. The utilization of broadband technology is crucial to the future of public safety and will enhance the ability to save lives by quickly sharing information with first responders, public institutions and private citizens. Allocating the D block directly to public safety is the only way to ensure a robust, modern and reliable nationwide interoperable network.

For years, state and local first responders have sought to build a national interoperable communications network that allows real-time information sharing through high speed video and data. This requires an appropriate, dedicated band of spectrum that can accommodate the everyday needs of firefighters, police officers and emergency medical personnel, as well as provide excess capacity during times of emergency. The 700 MHz D block finally provides this opportunity. While the Federal Communications Commission's National Broadband Plan proposes to provide public safety roaming and priority access on other commercial 700 MHz networks for a fee, this proposal relies on untested technologies and new regulations that cannot ensure reliable and resilient communications capabilities to meet stringent public safety needs.

We urge you to support reallocation of the D block to ensure this one time opportunity to develop a nationwide interoperable network for public safety is not lost.

Broadband

- 20 MHz of spectrum if public safety is allocated the “D Block”
 - More bandwidth means higher data rates
 - Dedicated public safety system
 - Nationwide access and roaming
 - Lowcost, hardened, “public safety grade” devices
- Serious talk in Congress of how to fund the buildout of such a system
- Stay tuned!

Questions



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