

SECTION 1 – COMMUNICATION SYSTEM COMPONENTS

Interagency Communication (for resource and disaster coordination)

There are a number of reasons why coordination of interagency communications is an important piece of the Wisconsin State EMS Communication Plan. Basic reasons for interagency communications include resource and disaster response coordination, which optimizes the ability to communicate with other agencies when necessary, but avoids interference with other agencies when a response is specific to only one agency.

SECTION 2 – STATE EMS COMMUNICATIONS PLAN

Interagency Communications (for resource and disaster coordination)

EMS communications systems should provide a means of communication to enable medical and logistical coordination between EMS field personnel, emergency department personnel and other agencies. If necessary regional or statewide coordination may be necessary based on the EMS operational plan submitted by the provider to the Department of Health and Family Services.

Local Coordination - The EMS communications system must have the capability for mobile and portable radios to communicate between agencies. EMS communications systems should be able to describe their communications capability with mutual aid responding units when an emergency requires multiple EMS agency vehicle response.

Regional Coordination - EMS agencies should establish resource coordination (e.g. first responder, ambulance and other EMS resources) to ensure that the highest level of care required is available to the patient. The EMS communications system should provide for coordination of EMS resources. EMS agencies should consider their involvement in large-scale disasters and anticipate the need for interagency communications. Preplanning with local Emergency Management agencies is an important aspect of interoperability on agencies' communication systems.

Intercept and Air Medical – The local ambulance service must be able to describe how communications takes place for ambulance intercepts and air medical transports.

- This includes a means of communication between units once they are dispatched and the ability to communicate to arrange for the transfer of patient care.
- In the case of air medical transports, this includes a means of communication between air and ground units once they are dispatched. The recommended channel for air medical communications with ground units while the air medical unit is on the way to the landing zone is MARC 2 or EMS C.

Back-up Communications - The concept of back-up communications is for disaster scenarios and redundancies in case of equipment failure. With regard to EMS communications specifically, the concept of back-up communications as applied to base station or other fixed radio equipment means to:

- Enable dispatch and response communications to continue despite outage of the primary dispatch and response radio base station.
- Enable local medical coordination communications to continue despite outage of the primary base hospital.

- Minimize the need for additional, widespread training and maintains needed flow of EMS personnel.

A failure plan must include provisions for:

- Medical control
- Dispatch
- Inter-agency coordination

The requirement for each ambulance service to have four basic frequencies creates a mechanism for back-up communications. Telephone Interconnection - Cellular phone use may be used as a primary communications method for ambulance service providers. However, because of some of the limitations of cellular phone use, cellular phones cannot take the place of the required radio equipment and frequencies.

Ambulance Licensure and Frequency Authorization

State approval for an EMS provider license includes authorization for the Ambulance Provider and First Responders that are approved for advanced skills to operate on all EMS frequencies as part of the State FCC licenses. Ambulance Providers have permission to use EMS frequencies as outlined and approved as part of their operational plan.

Frequencies & Tones for EMS Communications

Standard EMS channels are 155.340, 155.400, 155.280, MARC 1, MARC 2 channels and Med Pairs. All EMS transport providers must have the capability to communicate on all these channels except for the Med Pairs and 155.280. The above requirement applies regardless of what technology or communications system is used locally.

It is recommended that all First Responder services have the capability to communicate on 155.340, 155.400, 155.280 and the MARC channels. Use of these frequencies should be coordinated with the local ambulance provider and other related agencies.

EMS B (formerly State EMS channel) (155.340) – 155.340 is dedicated to Basic Life Support (BLS) and Advanced Life Support (ALS) communications with a primary purpose of communications between emergency medical field personnel and hospital personnel directing patient care prior to arrival at the hospital. A secondary purpose is on-scene medical coordination for mobile to mobile medical communications. This use should first be attempted on alternate frequencies (local, 155.280, MARC & then 155.340 in that order). The channel is for emergency medical care and should be limited to this purpose. All ambulances licensed in Wisconsin are required to have the capability to communicate with their receiving hospitals and medical control hospitals on this channel. All hospitals are also required to have the capability to communicate on 155.340 so ambulances from any area can make contact with the facility. This can be accomplished through direct 155.340 communications or through a patch from a central dispatch center.

EMS A (formerly State ALS channel) (155.400) – 155.400 is dedicated to communications among ambulance and hospital personnel directing patient care prior to arrival at the hospital while using advanced skills. The primary & secondary use of this frequency should be for any

ALS communications. This channel is for emergency medical care and should be limited to this purpose. Proper use would include communication for ALS intercepts and air medical contact.

EMS C (formerly State Coordination channel) (155.280) – The primary purpose of 155.280 is for communications between hospitals and provides a backup to the public telephone system, particularly in times of disaster. A secondary purpose is for coordination of landing zone operations for air medical providers, or for interagency EMS field coordination for disasters. This frequency is optional for hospitals that have other means of inter-hospital communication.

Hospital Tones and Codes – Each hospital in Wisconsin is assigned a CTCSS tone or PL (Private Line). These tones are coordinated to allow communications with just the needed hospital and not other local facilities. Tones for EMS B, EMS A, and EMS C are the same for any given facility. A digital code, D156, is also assigned for state-wide mutual aid use to allow multiple users and agencies access at the same time. This applies to all three channels, EMS B, EMS A, and EMS C.

Mutual Aid Radio Channels - MARC 1 (151.280/153.845), MARC 2 (151.280), MARC 3 (formerly WISTAC 2,-154.010), MARC 4 (formerly WISTAC 3, 154.130) – The Mutual Aid Radio Channels (MARC 1, 2, 3, and 4) are statewide interoperability channels. These channels are to be used for communication between public safety agencies and providers of any discipline. Note that MARC 1 is configured for wide area repeater usage. State interoperability plans include the bolstering of the MARC 1 repeater system throughout the state.

IFERN (formerly WISTAC 1) (154.265) – This channel is for use by any EMS, fire, or rescue use for mutual aid operations and for on-scene tactical use. This channel is part of the MABAS system, and is often used for MABAS dispatch functions.

UHF MED Pairs – The ten MED channels are designated for EMT- Intermediate and Paramedic care. The MED channels are dedicated to communications among ambulance and hospital personnel directing patient care prior to arrival at the hospital at a paramedic and intermediate level.

The channel is for emergency medical care/telemetry and should be limited to this purpose. A secondary use for air medical dispatch is acceptable as long as it doesn't interfere with the ability to communicate to provide patient care.

Med Mobile Receive channel frequencies are: Med Mobile Transmit channel frequencies are:

Med 1 463.000	Med 1 468.000
Med 2 463.025	Med 2 468.025
Med 3 463.050	Med 3 468.050
Med 4 463.075	Med 4 468.075
Med 5 463.100	Med 5 468.100
Med 6 463.125	Med 6 468.125
Med 7 463.150	Med 7 468.150
Med 8 463.175	Med 8 468.175
Med 9 462.950	Med 9 467.950
Med 10 462.975	Med 10 467.975

Med 9 & 10 are primarily used for dispatch. Note that these ten pairs of channels are configured for repeater usage. The Med Pair channels need to be coordinated in a geographical area. A requesting provider will normally be approved for Med Pairs 1-8, but normal use is usually limited to either Med Pairs 1-4 or 5-8. Use of these frequencies must be coordinated by the State EMS Communications Coordinator in conjunction with the dispatch center and ambulance services in the area of requested use.

Trunking Systems (800 MHz/VHF/UHF) – Trunking systems are in use more and more frequently, especially in urban areas, due to the loading, traffic, and management advantages that this technology offers. These systems are generally all discipline in nature, and can be used for ambulance communications between ambulance providers and hospitals. However, because of the need for ambulances to have the ability to communicate with any hospital in the state, a trunking system cannot be the sole method of communication. The required VHF channels still apply as an adjunct to other methods of communication.

Air Medical Frequency Recommendations – Local providers must be able to describe how communication takes place for air medical transports. This includes a means of communication between air and ground units once they are dispatched. Often, the air provider cannot land unless a communications link is established with at-scene responders on the ground. The recommended channel for air medical communications on the way to the landing zone is MARC 2. The reasons for using MARC 2 are:

- MARC 2 is a universal public safety frequency that can be used by all landing zone personnel (first responders, EMTs, fire and law enforcement)
- Designating MARC 2 as the standard frequency will avoid confusion in searching for the frequency to hook-up the air and ground units.
- Designating MARC 2 will also avoid the inappropriate use of other frequencies that should be left open for other communication.

Keep in mind, however, that during a mass casualty event, the MARC 1 repeater system may be activated. The use of MARC 2 by in-flight aircraft could interfere with the MARC 1 repeater system due to the increased transmit range an aircraft would have on MARC 2, which is also the input frequency of the MARC 1 repeater.

An alternative frequency choice would be EMS C (155.280). Regional plans should have the flexibility to use this option if it is a more practical frequency MARC.

Use of any other channels must be in the air medical provider's operational plan and must address interface and that these other channels are in addition to the required channels.

*Source -Department of Health and Family Services - Division of Public Health
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