

Boston Health Center and Hospital Radio Network

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BOSTON HEALTH CENTER & HOSPITAL RADIO NETWORK

Boston Metropolitan Medical Response System (MMRS), in conjunction with the City of Boston, established the Boston Health Center & Hospital Radio Network to afford command center communications between the Boston Public Health Commission, affiliated health centers, hospitals, and the Boston Emergency Medical Services (BEMS). Utilizing the City of Boston 800 Mega Hertz (MHz) network (trunking and conventional), it is designed for coverage within the City of Boston. The network may be used to ensure day-to-day communication in the event of a local or network telephone outage, provide command and control communication during emergency events, or request assistance and coordinate the response of additional medical resources.

“BOSTON”- NETWORK CONTROL

“Boston” – Network Control provides for the coordination of communications over the Boston Health Center & Hospital Radio Network. The center is staffed 24 hours a day with specifically trained Boston EMS EMT-Telecommunicators. Listed below are a few of the functions of “Boston”:

- Coordinate Talk Group/Channel management with users and network resources.
- Monitor, as possible, radio traffic to determine the quantity and quality of transmissions, as well as conduct regular testing of the network, to detect and resolve outages.
- Provide general assistance as requested by any agency in accordance with system procedures.
- Provide Command/Control/Communications/Intelligence (C³I) functions during mass casualty or disaster responses in cooperation with authorized incident commanders.
- Serve as a regional clearinghouse for medical resource requests.

TALK GROUP CHANNEL PLAN

Four dedicated Talk Groups, hereafter referred to as “Channels”, have been allocated for the Boston Health Center & Hospital Radio Network, along with channel use of other Boston “channels” in Zone A; Zone B contains public safety channels for emergency use – health centers and hospitals are not expected to use any of these “channels”. (See Zone/Channel matrix attached.) Additionally, a non-dedicated TALKAROUND, or “direct”, channel for non-network portable to portable transmission has been included in the event of a problem with the 800 MHz network. The following dedicated channels/names shall be used according to the principles of real-time sharing, make maximum use of the channels in a efficient manner, and ensure that the

channels can be relied on for communications needs of the most critical nature. (See Zone/Channel matrix attached.)

EMS 1: Monitored at BEMS Dispatch Operations Division, used to contact “Boston” (network control).

HEALTH CTR: The **primary** channel radio users should monitor at all times, as notifications of incidents and/or information will be broadcast here. This also serves as the “common calling” channel: if one health center would like to communicate with another, they should call each other here, and then shift their conversation over to the adjacent Hospital 3 channel; lengthy, detailed, or time consuming communication should not occur on HEALTH CTR channel. Regular testing of the network will be performed on this channel as well.

HOSPITAL 3: Assigned Inter-Health Center communication, it also serves as a back-up for Hospital Command (Hospital 1) and Logistics (Hospital 2) communication. Used for day-to-day, routine communication, users will shift to this channel after hailing each other on the primary channel; again, channel coordination will be conducted on the primary channel, HEALTH CTR.

HOSPITAL 2: Assigned Inter-Hospital Logistic communication, it also serves as back-up for Hospital Command (Hospital 1) and Inter-Health Center (Hospital 3). Used to coordinate Logistic communication, users will shift to this channel after being hailed on the primary channel; again, channel coordination will be conducted on the primary channel, HEALTH CTR.

HOSPITAL 1: Assigned Inter-Hospital Command communication, it also serves as back-up for Hospital Logistics (Hospital 2) and Inter-Health Center (Hospital 3). Used to coordinate command and control communication, users will shift to this channel after being hailed on the primary channel; again, channel coordination will be conducted on the primary channel, HEALTH CTR.

TALKAROUND: Assigned for portable to portable communications, the transmissions do not go through the network and therefore have a very limited range. The channel is shared by all City users and all transmissions may be monitored.

CITY EVENT: Assigned for City special event coordination, health centers and hospitals would not normally monitor this channel unless specifically directed to do so.

CITY EMERG: Assigned to all radios in the system, this channel may be used to contact the Municipal Police Department in the event of an emergency (and may be monitored by Boston EMS Dispatch Operations).

Zone B contains public safety channels for emergency use – health centers and hospitals are not expected to use any of the channels.

RULES OF USE

“Boston” Responsibility

Radio communications which concern any of the Boston Health Center & Hospital Radio Network transmissions should be coordinated by the designated network control station, and “Boston” will receive and process all requests for group radio communications and/or support from any of the MBHSR agencies in the event of an emergency or large scale incident. Day-to-day use of the Boston Health Center & Hospital Radio Network is provided through the use of a common calling channel (HEALTH CTR) where different facilities can contact each other and shift to an appropriately designated channel for detailed communication.

During an emergency, communications between facilities shall be directed to “Boston” for coordination, unless open cross-talk has been authorized. “Boston” is responsible for monitoring and expediting radio traffic as possible to keep the network operating efficiently – transmissions should be as complete and brief as necessary. User issues identified by “Boston” shall be immediately addressed by the responsible facility; preservation of incident communications shall be prioritized over individual use.

GENERAL PROCEDURES

FCC Rules

The applicable rules and regulations of the Federal Communications Commission shall govern the general operation of the radio channels.

Monitor Frequency

All persons operating radios must monitor the frequency on which they desire to operate, prior to transmitting.

Alert Tones

Various alert tones shall be transmitted as necessary.

Transmitting Names

All communications shall be kept impersonal. When names are transmitted, the full name or last name with title only shall be used. Names may also be substituted for call signs.

In order to maintain patient privacy rights (HIPAA), patient names shall not be transmitted except in cases of extreme emergency.

Identify Every Transmission

Unit identifiers (health center ID name) are to be said in every transmission.

Push To Talk (PTT) ID

A radio ID is sent each time the transmit button is engaged. Radios may/may not make sound an audible tone when transmitting ID, so remember that anything you say during

ID transmission will not be received. Always pause when transmitting to ensure your voice audio is sent and received.

Roll Call

Command and coordination of incidents is a must. Roll calls may be used when shifting resources from one channel to another to ensure compliance, or to confirm receipt of critical information such as security or safety updates. When called, users shall respond and work with network control to ensure radio operation and personnel safety.

Intonation and Voice Level

Word or voice inflections that reflect irritation, disgust or sarcasm must not be used. Relations with other users shall remain cordial at all times. Do not yell under any circumstances.

Message Brevity

All messages shall be kept brief and to the point.

Answering Radio Calls

All radio calls must be answered. When busy with patient care activities or traffic on another channel, the phrase “STAND-BY” shall be used to indicate receipt of call and intent to answer when available.

Radio unit Identifiers

Every user should utilize an ID consistent with these procedures. Each ID shall have a short and long form. The long form of an ID shall be used when initially establishing contact with another unit. The short form may be used to enable brevity through the balance of a message. When in doubt, use the long form ID

Composition

Radio unit identifiers shall be issued by the Commanding Officer of the Boston EMS Dispatch Operations Division, or his designee. Identifiers shall be alphanumeric characters or proper names of persons, roles or facilities (see attached ID list).

Examples:

<u>Long Form</u>	<u>Short Form</u>
“Boston Control” (BEMS Dispatcher)	“Boston”
“Boston Medical Center”	“BMC”
“Boston Public Health Commission”	“BPHC”
“Bowdoin Street Health Center”	“Bowdoin HC” or “Bowdoin”

Personnel Identifiers

All communications will identify personnel by an assigned ID in addition to the use of facility name. After initial contact has been made by using the unit ID, communicating personnel shall use their Facility Name and Personnel ID instead of the short form unit ID.

Personnel, primarily Field, assuming NIMS/ICS roles and responsibilities shall assume the appropriate IDs for those roles. For example, the Incident Commander would assume the location name of the incident, followed by IC, or "Tobin Bridge IC". For singular MCIs, roles such as Area Command, Staging, Treatment, Triage or Loading, to name a few, may be transmitted without the incident location/name designation.

Examples:

"John Jones"	(administrative or staff personnel)
"EMT Jones"	(for an EMT-Basic)
"Intermediate Jones"	(for an EMT-I)
"Paramedic Jones"	(for an EMT-P)
"RN Jones"	(for a nurse)
"Dr. Jones"	(for a physician)

Purpose of Call Signs

According to F.C.C. rules, call signs are to be used as identification. In addition, identifiers will be used at the beginning of a transmission (to prompt the voice-actuation circuits if in a "patch" condition). Any unit (i.e., two-way radio) must be authorized for use by an F.C.C. license. Mobile and portable units are typically authorized under a base station or system license. In such instances, the identifier may be used alone.

Example:

"Boston, this is BPHC, over."

"BPHC, (this is) Boston."

"Boston, BPHC requesting to talk with Martha Elliot about their staffing issue."

"BPHC, Boston, roger your request to cross talk with Martha Elliot. Shift and standby HOSPITAL 2."

"Martha Elliot, Boston calling."

"Boston, this is Martha Elliot."

"Martha Elliot, Boston, shift and standby HOSPITAL 2 to cross-talk with BPHC."

Language Format

These procedures endorse the principle that Plain English (coupled with accepted medical terminology if necessary) is the surest way to accomplish effective communications, either via radio, telephone or in person. This document lists preferred terms or phrases that have been shown to be particularly effective. To minimize confusion, health center personnel are encouraged to routinely use these terms. Local radio "codes" should not be used.

CALLING PROCEDURE

Initial Contact

Before speaking, always listen to the channel to ensure it is clear to use – avoid transmitting over ongoing communication.

When calling a station, say the name of the station or unit you are calling, followed by the words, “This is” and then your call sign, ending with the proword “OVER.”

“Boston, this is BPHC, over.”

Answering Procedure

To answer a call, use the same procedure as described above.

Acknowledging Messages

Messages should be acknowledged by saying the unit identifier, the proword “ROGER” and repeating the essential parts of the text of the message back. If there is a question as to whether or not the received message is correct, the proword “CONFIRMED” shall be said at the end of the message when repeated.

PROWORDS AND PHRASES

Experience has proven that some words when spoken over a two-way radio can be easily confused with other words and result in disastrous miscommunication. The words and phrases in this list are ideal for avoiding this type of problem and all radio users should become comfortable with their use.

Word or Phrase	Definition (for radio use)
ACKNOWLEDGED	I have received your message and will act upon it.
ACUTE	Condition of rapid onset.
AFFIRMATIVE	Yes. (Spoken over a radio, “yes” is easily confused).
ARRIVAL	Unit has arrived at its intended destination.
ASSIGNMENT	Assignment to an incident or radio channel.
BREAK	To interrupt in an emergency, or to separate parts of a group of messages.
CHANNEL (e.g. Hospital 1)	The Talk Group used in the Boston Health Center & Hospital Radio Network.
CONTACT	Establish communications.
CLEAR	Available; I am terminating this communication (or incident).
DISREGARD	Do not take action on last transmission.
ENGAGED/DISENGAGED	Radio patch connected/disconnected.
ENROUTE	Traveling to a specified destination.
HOLD	Remain at present location or specified position.
INCORRECT	Wrong.
LANDLINE	Order to make call by telephone.

MONITOR	Listen to all traffic on a radio channel.
NEGATIVE	No.
OBTAIN	Get.
OUT	I have finished all messages; do not expect a replay and the channel is open to others.
OVER	I have finished my message and expect a reply from you.
RELAY	Pass the traffic on to another person or station (repeat message verbatim).
ROGER	As in acknowledge, I have received your message and will act on it.
REPEAT	Administer the indicated therapy an additional time. (See SAY AGAIN).
SAY AGAIN	Repeat the last message transmitted. (Not to be confused with REPEAT).
SHIFT	Change channel as ordered.
SHIFT AND ACKNOWLEDGE	Change channel as instructed and say on the new channel your ID and acknowledge the shift.
SHIFT AND CONTACT	Change channel as instructed and call the desired station.
SHIFT AND STANDBY	Change channel as instructed and listen for further traffic.
STAND-BY	Answer to request is not immediately available, or user is busy with competing traffic. The order stand-by implies that a unit should stay on channel until called upon; order should not be acknowledged.
STATUS	A unit's present activity.
TRAFFIC	Messages transmitted by radio between units and/or stations.

Transmitting Numbers

In order to avoid errors when measurements of medications are ordered, or addresses are transmitted, numbers should be transmitted DIGIT-BY-DIGIT and pronounced as described below:

1	"WUN"	Strong W and N
2	"TOO"	Strong and long OO
3	"THA-REE"	Strong TH and R
4	"FLOWER"	Strong O, Strong W and Final R
5	"FIE-YIV"	Strong I changing to Strong Y and V
6	"SIKS"	Strong S and KS
7	"SEV-VEN"	Strong S and V
8	"ATE"	Strong A and long T

9	“NINER”	Strong NI and sounded ER
0	“ZEE-RO”	Strong Z and Short RO

Transmitting Letters

The Phonetic Alphabet is used to spell out letters in place of just saying the letter itself. By using a word for each letter there is less chance that the person listening will confuse letters. For instance, some letters that can easily be confused are "D" and "B". Using the phonetic alphabet, "Delta" and "Bravo" can be easily distinguished. The phonetic alphabet is used primarily used in two-way radio communications. The effects of noise, weak signals, distorted audio, and radio operator accent are reduced through use of the phonetic alphabet.

A Alpha (AL fah)	J Juliet (JEW lee ETT)	R Romeo (ROW me oh)
B Bravo (BRAH VOH)	K Kilo (KEY loh)	S Sierra (see AIR rah)
C Charlie (CHAR lee) L	Lima (LEE mah)	T Tango (TANG go)
D Delta (DELL tah)	M Mike (MIKE)	U Uniform (YOU nee form)
E Echo (ECK oh)	N November (no VEM ber)	V Victor (VIK tah)
F Foxtrot (FOKS trot)	O Oscar (OSS cah)	W Whiskey (WISS key)
G Golf (GOLF)	P Papa (pah PAH)	Y Yankee (YANG key)
H Hotel (hoh TELL)	Q Quebec (keh BECK)	Z Zulu (ZOO loo)
I India (IN dee ah)		

Transmitting Directions

When transmitting directions by radio, providers should use proper names and avoid using slang or abbreviations, particularly when describing locations. Use specific instructions, said in phrases, such as “PROCEED TO”, “TURN”, “HOLD”, “MONITOR”, “REQUEST”, “VERIFY”, “PROVIDE”, “ADMINISTER”, etc.

Reference Assessment Procedures

Communication on the Boston Health Center & Hospital Radio Network is in “clear” (non-encrypted) mode and may be monitored. Communication should never include patient identifiers that could associate a patient to other historical or medical record information.

Reports should be as complete and brief as possible; lengthy, rambling, unstructured reports are a waste of time and often as unclear as a fragmented report.

General Voice Procedures

Avoid abbreviations that are not commonly used. Instead, use commonly accepted and understood terms, including when identifying incident and/or event locations – do not use local language or descriptions that are not be commonly understood.

Identify each transmission using identifiers, especially when acknowledging orders.

Acknowledge orders by repeating them back exactly as you have received them.

Disaster /Significant Event Procedures

Definitive disaster procedures are the responsibility of regional and local agencies and individual facilities in conjunction with MMRS, BPHC and other City organizations. Users are expected to be thoroughly familiar with local procedures, the basic principles of the incident command system and those outlined in your own emergency plans (COOP and Pandemic Flu, Anthrax, Mass Dispensing, etc.). The Health Center and Hospital Radio Network is designed to support communication during emergency situations, both local and large scale, or when simultaneous communication with all health centers and hospitals improves the information relay or the coordination of joint decision making. While the channel plan has been designed flexible enough to meet the changing needs of an event, the following channel assignments have been designated to provide structure for the use of designated channels.

Command and control shall be conducted on HOSPITAL 1, while any Logistics traffic shall be on HOSPITAL 2, with health center cross talk communicated on HOSPITAL 3. (Again, cross-talk between Community Health Centers can be coordinated initially on HEALTH CTR, and if prolonged discussion is needed, both parties may shift to Hospital 3. Listen briefly before transmitting to ensure your transmission does not interfere with communication already on that channel.) Some examples of different types of communication, and the channels they might use, are explained below.

Public Health Commission Emergency: Command and control communication may be conducted on HOSPITAL 1 to discuss the Community Health Center role and responsibility in during an emergency. HOSPITAL 1 could also be used to give senior administrative staff ongoing situational updates and to be aware of shifts in the status of the health centers. A health center needing to close, due to a facility failure or resources being exhausted, would have significant impacts on the rest of the health network and would be another issue communicated on HOSPITAL 1.

Protracted MCI: In the event of a Mass Casualty Incident, patients may self present at community health centers, overwhelming on site resources and requiring support by BPHC and EMS personnel. A community health center may request an immediate BEMS response to the site, and also to advise BPHC and BEMS command of its status. Issues related to site access, security and transportation may be conducted on the command and control channel: HOSPITAL 1, while immediate, individual requests for personnel, supplies or other support communication may be conducted on the Logistics channel: HOSPITAL 2.

Mass Exposures and Prophylaxis: In the event of a major exposure (e.g. Anthrax), medication will be deployed to pre-determined dispensing sites. BPHC will communicate information to the public about site locations via the media and also through Health Centers, which might be communicated on the Command Channel: HOSPITAL 1. Review of Community Health Center operations, including impacts to internal staff and efforts to mitigate staff shortages, might be another example of Command, or Hospital 1 channel traffic. BPHC could also request the availability and

redeployment of personnel, both clinical and support staff, to support dispensing sites, which might be communicated on the Logistic Channel: HOSPITAL 2.

In a Pandemic, patients presenting with flu like symptoms may be better directed to a Mass Care Shelter or Health Center. Here again, BPHC/MMRS might communicate information to the public about site locations via the media and also through Health Centers, which might be communicated on the Command Channel: HOSPITAL

1. Coordinated review of health center activity, including patient volume and type, or neighborhood health issues might also be communicated on HOSPITAL 1. Health Centers needing to refer patients into facilities for more definitive or extended care might coordinate the logistics of point of entry via HOSPITAL 2.

When the Boston Health Center & Hospital Radio Network is utilized during an emergency, prompt and repeated updates regarding the incident shall be communicated to and provided by "Boston" (or designated coordinator). Requests for assistance will be directed to the designated coordinator on a logistic channel. Hospitals that may receive patients, or nearby hospitals which may be indirectly impacted by an MCI, shall receive communication updates via normal procedure; a hospital might also use such information and determine if its institutional disaster plan should be executed. All information should be qualified according to the degree of information needed to be transmitted.