METROPOLITAN EMERGENCY SERVICES BOARD
9-1-1 TECHNICAL OPERATIONS COMMITTEE AGENDA

June 15, 2023, 10:00 a.m.

1. **Call to Order & Introductions** – Susan Bowler, 2023 Committee Chair

2. **Approval of Agenda** – Bowler

3. **Approval of Minutes** – May 18, 2023 Meeting – Bowler

4. **Action Items**
   A. Approval of Regional Funding Priorities – Tracey Fredrick/Jake Jacobson
   B. Approval of Amendments to PST Training Curriculum – Heidi Meyer

5. **Discussion Items**
   A. Increase in Misdials to 9-1-1 – Darlene Pankonie
   B. Verizon Misroutes –Tony Martin
   C. Update on PST Certification Language – Pankonie
   D. Blue Peak Consulting Resiliency Training/WG Update – Meyer
   E. Mental Health Call Processing Standard – Martin
   F. PSAP Salary Survey – Meyer

6. **Reports**
   A. PSAP Operations Roundtable Workgroup – Meyer
   B. SECB NG9-1-1 Committee Report – Janelle Harris/Brent Anderson
   C. 9-1-1 Network Report (attached) – Jacobson
   D. 9-1-1 Data Report (attached) – Marcia Broman
   E. MN Sheriff's Assoc. PSAP Subcommittee Report – Bowler
   F. IPAWS Report – Kari Morrissey
   G. SECB NG9-1-1 Technical Operations Workgroup – Scott Petersen
   H. SECB NG9-1-1 Operations Workgroup – Morrissey
   I. Update: CAD-to-CAD RFP – Jacobson

7. **New Business** – None

8. **Announcements**
   A. Next Meeting: Thursday, July 20, 2023, 10:00 a.m.

9. **Adjourn** – Bowler

Metropolitan Emergency Services Board
9-1-1 Technical Operations Committee
Meeting Minutes
May 18, 2023

Committee Members Attendance:

Airport – Lauren Petersen
Allina EMS - Victoria Vadnais
Anoka County - Val Sprynczynatyk
Bloomington - LaVae Robinson
Carver County - Susan Bowler
Chisago County - **absent**
Dakota County - Brent Anderson
Eden Prairie – Lisa Vik
Edina – **absent**
Hennepin County -Tony Martin
Hennepin EMS - Dan Klawitter
Isanti County - **absent**
Metro Transit - **absent**
Minneapolis - Joni Hodne
North Memorial - **absent**
Ramsey County – Nancie Pass
Ridgeview EMS - John Scheuch
Scott County - Carrie Bauer
Sherburne County - Laura Anderson
St. Louis Park - **absent**
U of M - **absent**
Washington County - Darlene Pankonie

Alternates/Guests:
Scott Haas, *Scott County;* Matthew Hoffer, *Lumen;* Dawn Kenyon, *Hennepin County;* Todd Moen, *Carver County*; Heidi Meyer, *Anoka County*; Marvin Bachmeier, *Hennepin EMS;* and Dave Taylor, *IES.*

MESB Staff: Marcia Broman; Tracey Frederick; and Jake Jacobson.

1. Call to Order & Introductions
Susan Bowler, Committee Chair, called the meeting to order at 10:01 a.m.. Introductions were made.

2. Approval of Agenda
Bowler noted one amendment to the agenda to add agenda item 5A. Approval of Amendments to Metro 9-1-1 Standard 1.11.3 – Minimum Training Standard, Public Safety Telecommunicator.

Motion by Lauren Petersen, seconded by Darlene Pankonie to approve the agenda as amended. Motion carried.

3. Approval of May 18, 2023 Minutes
Pankonie offered the following amendments to the May 18, 2023 meeting minutes: 6B: remove reference to specific name “Dorian” as it was incorrectly stated. It should read that the language was run through “ECN Legislative Liaison.” Additionally under 6C: the pricing amount should be removed; and under 6H: the comments should be stricken.

Motion by Pankonie, seconded by Tony Martin, to approve the May 18, 2023 minutes as amended. Motion carried.

4. Presentation of GoodSAM Application by Dr. Nick Simpson, Hennepin Health
Dr. Simpson presented live demonstration of the Good Sam App (https://www.goodsamapp.org/). Showed power and potential of quick video contact with caller needing medical attention by a medical professional. The application was simple to understand and execute - sending a link to the

caller's cell phone, as demonstrated with Vikki of Allina. Currently in Pilot phase. Dr. Simpson evangelizing to all he can who are involved in public safety.

5. Action Item: Approval of Amendment to Metro 9-1-1 Standard 1.11.3 – Minimum Training Standard, Public Safety Telecommunicator

Heidi Meyer presented the amendments to Metro Standard 1.11.3 – Minimum Training Standard, Public Safety Telecommunicator as recommended by the PSAP Roundtable. The discussion centered on the need for prominence and elevation of the Public Safety Telecommunicator (PST), even within county government.

Motion by Pankonie, seconded by Val Sprynczynatyk, to approve the amendments to Metro 9-1-1 Standard 1.11.3 – Minimum Training Standard, Public Safety Telecommunicator, with the addition of the following additional amendments:

- Section 6. E – change WCIV to WCVC
- Section 6. H – change citizen to community
- Section 7 – change PSAP managers to PSAPs (strike managers)
- Section 8 – change PSAP managers to PSAPs (strike managers)
- Section 10 – add to Standards Maintenance section: "Standards should be reviewed by the Metro PSAP Operations Roundtable on an annual basis to ensure that they are aligned with current governance, operational, and technical practices."

Motion carried.

6. Discussion Items

A. Introduction of Richard "Jake" Jacobson

Jake Jacobson introduced himself to the committee. He said being the MESB Regional 9-1-1 Manager is a different role from Lumen MN NG911 Program Manager, however, the same customers – MESB. Jacobson has been a Project/Program Manager over 25 years, with Fortune 500 and consulting firms. He is recused from MN NG9-1-1 RFP but will be engaged for MESB implementation. He also will be involved with CAD interoperability implementation should RFP lead to contract. He is glad to be here.

B. Blue Peak Consulting Resiliency Training/WG Update

Heidi Meyer said that Blue Peak Consulting, working with the PSAP Roundtable, is working on scheduling "Champions Day" for training and aiming for late June. Blue Peak is performing training at Dakota County which was very well received. Blue Peak is completing videos for training.

C. Mental Health Call Processing Standard

Martin said that the focus of discussions on the standard is on 9-1-1/9-8-8 staff training guidelines. Work continues.

D. PSAP Salary Survey

Meyer said the PSAP Roundtable reviewed the salary survey spreadsheet so far, but much data is yet to be populated which requires individual PSAP efforts. Meyer to post in PSAP shareware Basecamp for PSAPs to populate.

E. Feedback: SECB Standard GOV-4 – SECB Standards: Development & Maintenance

Pankonie presented draft SECB Standard GOV-4 – SECB Standards: Development & Maintenance. The draft standard outlines the process for all SECB standards. The committee expressed no concerns. Pankonie to return feedback to SECB.

F. Feedback: SECB Standard 911-5 – Language Line Solutions
Pankonie presented draft SECB Standard 911-5 – Language Line Solutions. She said some PSAPs use Language Line outside of normal 9-1-1 process.

Scott Haas recommended replacing "common examples" with "allowable uses" given the document is a standard and not a guideline. Pankonie to bring feedback to SECB.

7. Reports
A. PSAP Operations Roundtable Workgroup
Brent Anderson said the workgroup will meet in July. The group needs a new secretary.

B. SECB NG9-1-1 Committee Report
Brent Anderson said the committee meeting was short due to the absence of ECN.

C. 9-1-1 Network Report
Jacobson reviewed items from written report. Washington County reported a text identified from RapidSOS that ended up as voice – voice busy with CHE.

Martin mentioned the challenge of identifying text issues – no alerts/alarms.

Matthew Hoffer of Lumen stated there is no FCC requirement involving text issues. Regardless, Hoffer has brought to Lumen Operations that PSAPs want more proactive capabilities in identifying text issues.

D. 9-1-1 Data Report
Broman summarized the items included in the written report.

E. MN Sheriff's Assoc. PSAP Subcommittee Report
Bowler unable to attend last meeting, but noted ECN is launching telecommunicator recruitment videos with the Minnesota Sheriff's Association.

F. IPAWS Report – No report.

G. SECB NG9-1-1 Technical Operations Workgroup – No report.

H. SECB NG9-1-1 Operations Workgroup – No report.

I. Update: CAD-to-CAD RFP
Jacobson said the RFP team meets continually and is making progress. The group will meet again right after this meeting.

8. New Business – None

9. Announcements
Next meeting: Thursday, June 15, 2023, at 10:00 a.m.

10. Adjournment
The meeting adjourned at 12:10 p.m.

METROPOLITAN EMERGENCY SERVICES BOARD

Meeting Date: June 15, 2023
Agenda Item: 4A. Approval of 2024 Regional Funding Priorities
Presenter: Fredrick/Jacobson

RECOMMENDATION

[Draft recommendation; actual motion will be determined by the discussion at the meeting.]
The 9-1-1 TOC recommends including the following items as regional funding priorities for grants available in 2024 in priority order:

1. Workload Sharing/CAD-to-CAD/Regional Situational Awareness System Implementation
2. PSAP Continuity of Operations
3. Mental Health Crisis Training
4. Staff Recruitment Activities
5. GIS Software Services

BACKGROUND

Emergency Communication Networks (ECN) Division and the Statewide Emergency Communications Board (SECB) require regions to annually approve regional funding priorities. These priorities are to include projects/items/concepts for which regions can apply for grant funds through the SECB process.

ISSUES & CONCERNS

While priority submission is an annual practice for the 9-1-1 TOC with discussion and debate continuing into the latter months of the calendar year, there is a greater sense of urgency as the SECB grant process cycle has been moved up to the extent that grant applications must be submitted by end of July. Priority submission must be completed in July or no potential funding will be forthcoming.

Included in the meeting materials is the approved Regional Needs document reviewed by the 9-1-1 TOC at its March 16, 2023 meeting, and approved by the Board in May 2023.

FINANCIAL IMPACT

None to the MESB other than staff time to apply for and process grants.

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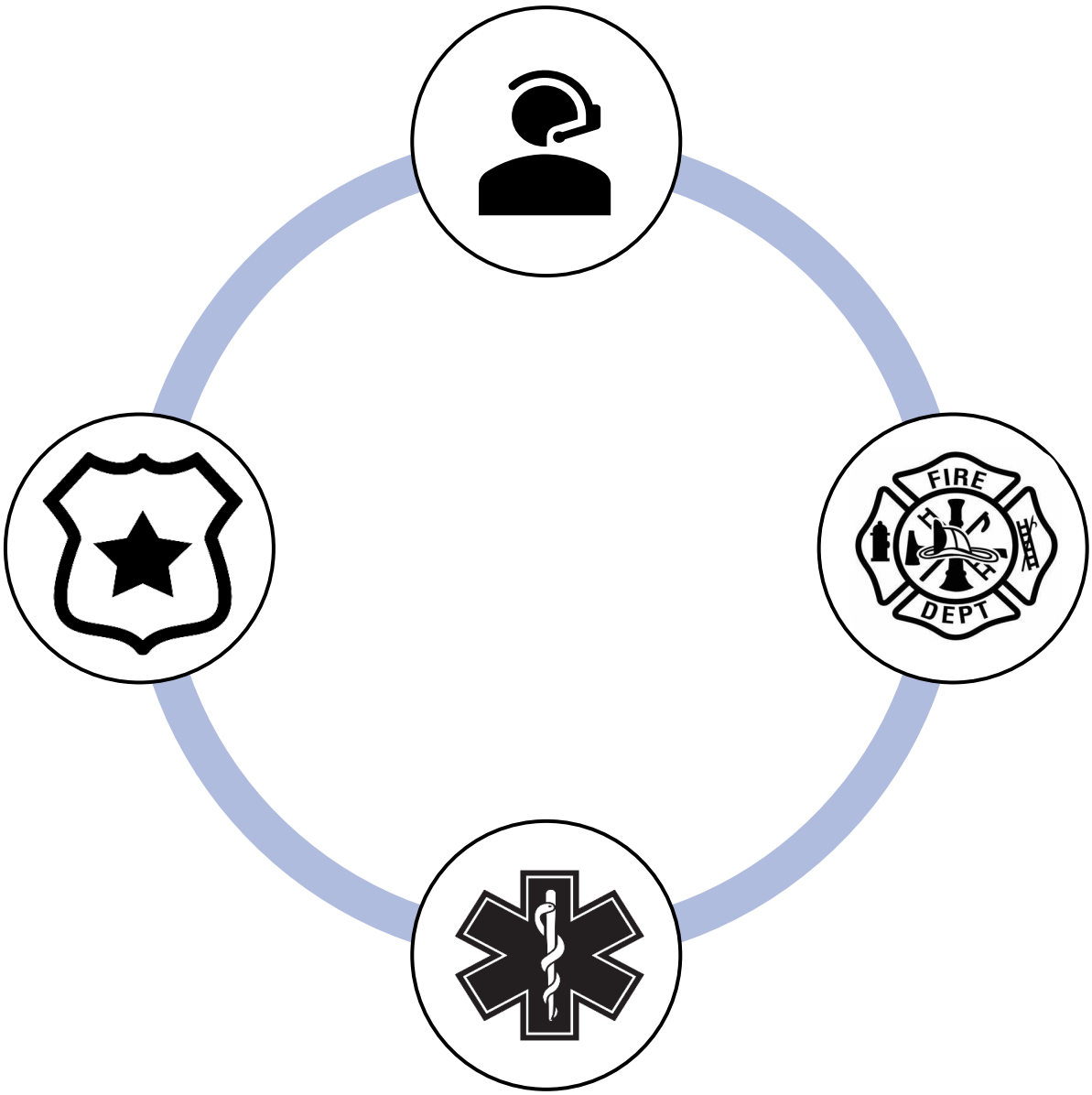
Metropolitan Emergency Services Board

Regional Needs: The Public Safety Emergency Communications Ecosystem



Approved: May 10, 2023

The Metropolitan Emergency Services Board

The Metropolitan Emergency Services Board (MESB) is one of seven regional Emergency Communications Boards (ECBs) and Emergency Services Boards (ESBs) in the state of Minnesota. The MESB was established under MSS 471.59, MSS 403.39 and MSS 403.392 to provide local governance on matters related to emergency communications (9-1-1 and ARMER), as well serving as the regional EMS system for the metro region. The MESB is a joint powers board composed of the following entities: Anoka County; Carver County; Chisago County; Dakota County; Hennepin County; Isanti County; Ramsey County; Scott County; Sherburne County; Washington County; and the City of Minneapolis.

The Public Safety Emergency Communications Ecosystem

With approximately 94,000 active radios (MnDOT, October 2022), the statewide Allied Radio Matrix for Emergency Response (ARMER) system, built by Motorola Solutions and owned and operated by the Minnesota Department of Transportation (MnDOT), provides interoperable Land Mobile Radio (LMR) communication capabilities to 9-1-1 emergency communication centers (ECCs) (also known as Public Safety Answering Points or PSAPs), law enforcement, fire, Emergency Medical Services (EMS), emergency management, public works, and other public safety users across Minnesota.

Construction of the ARMER system in the Twin Cities metropolitan region began in the late 1990s and expanded to include greater Minnesota in the mid-2000s. In late 2020, the MnDOT completed its backbone of the ARMER system buildout. There are now 335 state-maintained and 100 locally maintained ARMER tower sites on-the-air across Minnesota that provide ARMER system radio coverage (mobile only) to 95% of the state's geographic area. Of the 100 locally maintained ARMER tower sites, 54 are in the metro region.

As the ARMER system matures, there is a need to maintain and replace or upgrade aging infrastructure, equipment, and technology. The Statewide Emergency Communication Board (SECB) and state agencies are currently working to develop a capital improvement plan to address this need.

In 1979, the Metropolitan 9-1-1 Telephone Board was formed as a joint powers board of the seven metropolitan counties to plan, design, and implement the first multi-jurisdictional enhanced 9-1-1 (E9-1-1) system in the United States. This system went live at midnight, December 1, 1982, and provided the basis for the statewide buildout of E9-1-1. Today, all 108 PSAPs in the state are part of the statewide 9-1-1 network. Of the 108 PSAPs, 24 are located in the metro region. The 9-1-1 network is in process of transitioning from E9-1-1 to Next Generation 9-1-1, which will provide PSAPs additional abilities to answer texts, receive photos and videos, provide improved 9-1-1 caller location, and provide pre-determined rules for routing of 9-1-1 calls.

Today, the Department of Public Safety contracts and pays for the statewide 9-1-1 system. Local governments pay for costs associated with receiving 9-1-1 calls and dispatching public

safety responders. Local government costs include maintaining the physical PSAP; salaries/benefits for PSAP employees, including public safety telecommunicators (PSTs), administration staff, technical staff, and in some cases, dedicated GIS staff; purchase and maintenance of call handling equipment (CHE) used to answer 9-1-1 calls; purchase and maintenance of communications/radio equipment used to dispatch response to 9-1-1 calls; software or subscription services to maintain the PSAP's 9-1-1 data and services, including GIS data; and software or subscription services to provide Integrated Public Alert and Warning Systems (IPAWS) alerts to the public. Much like the ARMER system, as the 9-1-1 network and 9-1-1 systems continue to evolve, there is a need to maintain, upgrade, or replace aging equipment to allow for new technology to meet the expectations of the public, which would like to communicate with 9-1-1 in the way the public communicates with one another.

Much like hardships of recruitment and retention of staff across public safety disciplines, PSAPs today face difficulty in maintaining a full-complement of PSTs which are needed to answer a PSAP's specific volume of 9-1-1 and administrative calls. PSAPs also face difficulty in recruiting new people to serve as PSTs, as many people do not wish to work in a high-stress environment or work nights, weekends, and/or holidays, which is required in a public safety field.

Funding Considerations

The State of Minnesota's portion of the costs associated with operating the ARMER system is funded through a combination of trunk highway funds, 9-1-1 special revenue funds, and radio tower lease receipts.

Except for PSAP equipment and a limited portion of local infrastructure expenses which can be funded via the 9-1-1 special revenue fund, local costs (including tower site leases, utilities, and system and equipment maintenance) associated with the ARMER system are typically funded via local property tax revenues or per radio charges to ARMER system users in a county. Due to these constraints, public safety agencies across Minnesota face significant funding challenges related to the escalating costs of maintenance of ARMER system infrastructure, equipment, and technology. Without access to stable, adequate supplemental funding sources, it will be increasingly difficult for local entities to support their ongoing ARMER system maintenance and sustainment needs.

Regional Priorities

Though this document covers region-wide needs only, and does not include individual needs of counties, that is not to say that these regional priorities will not benefit each of the ten metro counties individually. What follows are priorities that metro region agencies agree are a priority.

Computer-Aided Dispatch (CAD)-to-CAD Interoperability Solution

The 24 primary and secondary PSAPs in the metro region desire to acquire a CAD-to-CAD integration solution designed to connect disparate CAD systems for the purpose of expediting emergency response which may cross jurisdictional and PSAP boundaries.

The solution would also provide improved situational awareness for metro region PSAPs. Such a solution was found to be a need in the Metropolitan Emergency Services Board's May/June 2020 Civil Unrest After-Action Report/Improvement Plan. The solution could allow other PSAPs to answer 9-1-1 calls intended for a PSAP which has been inundated with 9-1-1 calls; this will provide 9-1-1 callers with better service in extraordinary situations/events.

Estimated Metro Region cost: ~$180,000 per year, plus one-time implementation costs of approximately $30,500*

*This item is included in HF 2431/SF 2454

BDA Requests

Several buildings in the region have been identified as having radio coverage gaps and would benefit from having bi-directional amplifiers (BDA) installed, allowing first responders with ARMER radios to communicate via the ARMER system no matter where in a building the responder is located.

Estimated Metro Region cost: ~$3 million* in capital costs.

*This item included in HF 2431/SF 2454

GIS Software Services – School Mapping

With the frequency of mass shootings/armed assailant incidents increasing nationwide, and in reviewing the response to recent school shootings, primarily in Uvalde, TX, the metro region would like to implement school mapping, whereby maps of schools would be available in each PSAP, which could facilitate the location of 9-1-1 callers within the building. Additionally, having these resources available could provide first responders with information that could affect emergency response, such as locations of chemistry labs, etc. which could alter responders' plans.

Estimated Metro Region cost: ~$400,000 in one-time implementation costs and $40,000 per year in annual maintenance costs*

*This item included in HF 2431/SF 2454

GIS Software Services

GIS software services are needed to support the creation, conversion, and maintenance of GIS-derived Master Street Address Guides (MSAGs) for the PSAPs in the ten-county metropolitan region. These services would further integrate the region's legacy 9-1-1 data processes with those needed for NG9-1-1. The outcomes include improving 9-1-1 data accuracy, gaining operational efficiency, and maintaining 9-1-1 data synchronization during the transition to full i3 NG9-1-1 implementation. Additionally, a web-based map viewer will allow for all metro region PSAPs and GIS partners to have visibility to the region's current NG9-1-1 and related geospatial datasets in a secure, shared environment, allowing for seamless data sharing, greater collaboration, and improved data integrity.

Estimated Metro Region cost: ~$180,000 per year, plus one-time implementation costs of approximately $30,500 for generalized GIS software services
~$344,059 for five years for the web-based data viewer, plus $8,279 in one-time implementation costs.

AES Encryption

The Statewide Emergency Communication Board (SECB) recommends a transition to a higher level of encryption (AES or Advanced Encryption Standard) for sensitive radio transmissions on the ARMER system. To achieve this capability, supplemental funding is necessary to replace and/or upgrade existing ARMER system equipment.

Estimated Metro Region cost: ~$9 million

Geo-Diverse 9-1-1 Call Handling Equipment (CHE) ESInet Connections

Many Minnesota PSAPs are taking advantage of geo-diverse technology with new CHE platforms that allow for 9-1-1 calls to be delivered to two locations simultaneously. Geo-diverse configurations split the A and B servers typically found at one location, into two separate geo-diverse locations, which allows for additional staff at another location, or PSAP, during extremely busy times or special events to answer 9-1-1 and administrative calls while the main PSAP is still active. It also allows the PSAP to abandon its primary location while the backup location is fully operational and gives the opportunity for a staged evacuation while staff is enroute to the backup location. Additionally, the main PSAP can operate on the connections that exist at its backup location if the main PSAP experiences any technical issues with its connections. To allow for full redundancy and resiliency, each PSAP utilizing geo-diverse CHE should have two Emergency Services Internet (ESInet) connections at each location to ensure the maximum number of 9-1-1 calls can be received at either location at any time, regardless of any problems occurring at the other location. Currently, ECN only pays for two ESInet connections at each PSAP, which is the typical setup for legacy CHE. ECN should reconsider its position and pay for four ESInet connections for PSAPs which implement geo-diverse CHE systems. Having four ESInet connections provides improved resiliency and redundancy for a PSAP's 9-1-1 system and best serves the residents of its jurisdiction.

Estimated Metro Region cost: ~$12,000 per PSAP per year, or $216,000 annually in addition to ECN's current costs

Vendor-provided Radio Technical Training

According to SECB standard, system administrators must go through training at least once every two years. To keep current with evolving technology, administrators request to attend training provided by a contracted technical vendor to fulfill this need.

Estimated Metro Region cost: ~$40,000 per year

CRTF Training and Exercising

The Metro Communications Response Task Force (CRTF) holds quarterly training/exercises for deployable personnel to remain current on local, state, and national standards. These deployable personnel typically are assigned to assist in the field, the command post, EOCs, and PSAPs during planned and emergent events.

Estimated Metro Region cost: ~$10,000 per year

Staff Recruitment & Retention

Public safety disciplines, including PSAPs and LMR technology departments, struggle to recruit and retain employees. There is a need to establish a program to actively recruit new staff to address worker shortages and to retain employees. The Emergency Medical Services Regulatory Board has established a pilot grant to focus on EMS employee sustainability. Similar programs should be instituted for other public safety disciplines, though with this request the focus is on public safety telecommunicators and system technologists. The metro region would like to contract with a vendor to place targeted recruitment ads via radio, flyers, videos, and social media platforms. This item may also address the needs to fill new positions related to Next Generation 9-1-1 features and functionalities.

Estimated Metro Region cost: ~$100,000 per year

Ongoing Maintenance for Existing ARMER Infrastructure

Every five years, the State of Minnesota (specifically MnDOT) executes a service contract with Motorola for maintenance and upgrades to the ARMER system. A combination of 9-1-1 fees, state funds, and federal trunk highway funds are used to fund maintenance of state-owned radio infrastructure. Counties and the City of Minneapolis own “local enhancements” which are additional tower sites or channels interconnected with the state-owned sites to provide adequate coverage for local users. These local enhancements are shared with general users of the ARMER system. Local enhancements and backhaul to the regional network are funded by the owning agencies. Since the state-owned and local enhancements form the completed radio network, a funding source to assist in the maintenance of the local enhancement sites is needed.

Estimated Metro Region cost: ~$500,000

Subscriber Equipment Replacement

The subscriber radios (mobiles and portables) used to communicate on the ARMER statewide system have a finite lifespan. These radios reach end-of-life when firmware, batteries, or replacement parts become unavailable. Continuing to use outdated subscriber equipment results in distorted or incomplete communications. Equipment replacement is typically funded locally with no state or federal dollars associated; having shared funding for these shared resources would be ideal to ensure the quality and consistency of emergency communications.

Estimated Metro Region cost: ~$11 million

Additional Local Enhancement for Capacity/Coverage Needs

As the population in the region continues to increase and new buildings are constructed, local subsystem owners need to add additional ARMER tower site to increase coverage and capacity to meet higher density population centers.

Estimated Metro Region cost: ~$50 million

METROPOLITAN EMERGENCY SERVICES BOARD

Meeting Date: June 15, 2023
Agenda Item: 4B. Approval of Amendments to Emergency Communications Professional Minimum Training Curriculum
Presenter: Meyer/Jacobson

RECOMMENDATION

The PSAP Roundtable recommends the 9-1-1 Technical Operations Committee approve amendments to the Emergency Communications Professional Minimum Training Curriculum document.

BACKGROUND

The Metropolitan Emergency Services Board established Emergency Communications Professional Initial Training Manual for individuals serving as public safety telecommunicators (PSTs) also referred to as telecommunicator, public safety call-taker and/or dispatcher, in the Minnesota Metro Region.

This manual provides the following learning objectives.

1. Ability to articulate the basic vision, values and mission of the Public Safety Answering Point (PSAP) and its umbrella agency.
2. Understand the role of the PST within the public safety response system.
3. Review the scope of the duties and responsibilities of the PST.
4. Comprehend the organizational chart both within the PSAP and the greater public safety organization.
5. Understand the jurisdictional boundaries of each public safety organization served.
6. Understand the expectations for professional behavior.

ISSUES & CONCERNS

This manual requires regular updates to reflect the current and increasingly complex environment of the public safety telecommunicator (PST). This MESB training manual codifies the knowledge required to provide the consistent and high-quality services expected of the PSTs in the metro area.

This document contains many amendments. Some amendments are to correct typos or to reflect current terminology (replacing public safety communications specialist (PSCS) with public safety telecommunicator (PST). Other changes are to replace web links, or to note that the web links no longer exist.

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METROPOLITAN EMERGENCY SERVICES BOARD

Meeting Date: June 15, 2023
Agenda Item: 4B. Approval of Amendments to Emergency Communications Professional Minimum Training Curriculum
Presenter: Meyer/Jacobson

FINANCIAL IMPACT
None to the MESB.

MOTION BY:
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~~Emergency Communications Professional~~Public Safety Telecommunicator

Initial Training Manual

Metropolitan Emergency Services Board

Updated June~~April~~ 2023

For Official Use Only

Special Thanks:

A special thanks to the members of the Metropolitan Emergency Services Board's 9-1-1 Technical Operations Committee (9-1-1 TOC) and its PSAP Roundtable Workgroup for their guidance and technical input to this training manual. This manual contains the basic training information needed to become a fully trained Public Safety Telecommunicator. Additional information can be found in each individual agency's policy and procedures manual, and on the included internet links. Emergency communications is an ever-changing and challenging profession which requires life-long learning; this manual is the first step of that learning.

Note: As of the date on the cover page, all links included in this document are current and operational. However, PSAP staff should check links before commencing training using this document, as many websites change links frequently. If a link is found to be faulty, please report it using the approved curriculum change process.

Table of Contents

Chapter 1: Roles and Responsibilities

Scope:

This section introduces the public safety telecommunicator (PST) trainee to agency-specific information, mission and vision statements, and department service area. The PST trainee will be introduced to position duties and responsibilities, as well as the role of emergency communications in the public safety response system.

Learning Objectives:

1. Ability to articulate the basic vision, values and mission of the Public Safety Answering Point (PSAP) and its umbrella agency.
2. Understand the role of the PST within the public safety response system.
3. Review the scope of the duties and responsibilities of the PST.
4. Comprehend the organizational chart both within the PSAP and the greater public safety organization.
5. Understand the jurisdictional boundaries of each public safety organization served.
6. Understand the expectations for professional behavior.

Many agencies have mission and/or vision statements. These statements articulate the scope of the organization and the values it holds. A mission statement describes the "what" of an organization; it gives a description of the purpose of the organization. A vision statement describes the "how;" it may include the values, beliefs, and vision for the organization. Neither statements give specific instructions for daily operations, rather they serve as a repository for the goals for operations and expectations for professional behavior. The [insert agency name] mission and/or vision statement ~~states as~~ follows:

[Insert agency mission and/or vision statement]

Public Safety Telecommunicator (PST)

The U.S. Department of Labor defines the roles of police, fire and emergency medical services (EMS) dispatchers as those who:

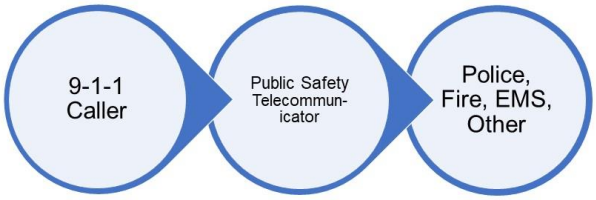
> Operate radio, telephone or computer equipment at emergency response centers. Receive reports from the public of crimes, disturbances, fires, and medical or police emergencies. Relay information to law enforcement and emergency response personnel. May maintain contact with caller until responders arrive[1] (U.S. Department of Labor).

As the link between the public and the emergency response system, the PST is responsible to be the voice of the victim until field-responders arrive. The PST is an integral partner in the public safety profession. The request for emergency assistance begins with the PST, who may also have the title of call-taker and/or dispatcher. People in the position gather the necessary

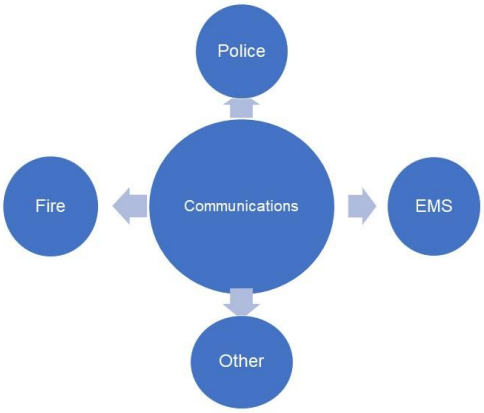
Commented [AR1]: Since we are pushing for legislation that includes PSTs as first-responders, I think its important to distinguish that this sentence refers to the responders who go in-person

[1] U.S. Department of Labor, Bureau of Labor Statistics, 43-5031 Police, Fire, and Ambulance Dispatchers, https://www.bls.gov/oes/current/oes435031.htm#nat. Accessed April 21, 2020.

information to safely and efficiently assign public safety responders – police, fire, EMS, and other necessary personnel – to requests for public safety assistance.



Once information is transmitted to the public safety field-responders, the PST maintains communications with and between each responding discipline, police, fire, EMS and, as needed, other responders such as public works, animal control, or others. This link remains in place until the call for service is closed.



Scope of Responsibility

PSTs make critical decisions daily. Due to the consequences of one's actions or inactions, the need to be highly trained and cognizant of the scope of responsibilities is paramount to the safety of the public and responders alike. The specific duties and responsibilities are as follows:

[Insert job description]

While these responsibilities may appear overwhelming, [insert agency name] is committed to providing the training, feedback, and support needed for trainees to become fully qualified PSTs. Each section of this training manual will serve as both a training guide and a resource for trainees. Be advised that this is simply an initial training document; the field of emergency communications is an ever-evolving profession that requires continual training to maintain a high quality of service to [insert jurisdiction] community and public safety partners.

The initial training is based on minimum training standards for public safety telecommunicators and best practices as developed by the Association of Public-Safety Communications Officials International (APCO) and the National Emergency Number Association (NENA).

To be successful in this profession, one must understand and follow all department-issued policies and procedures. These are designed for maximum safety and efficiency while reflecting agency and industry best practices.

[Insert link to local policy and procedure manual]

Communities Served

Each PSAP is responsible for a specific geographic area. The center may be responsible for a city, county, region, response zone, or other specified area. The PSAP may serve overlapping areas for individual disciplines, such as EMS. [Insert PSAP name] serves the geographic area of:

[Insert cities/geographic area definitions]

Every response zone is unique. In [insert PSAP name] response area, the following points of interest will become familiar to trainees due to their importance or unique response needs:

Insert agency specific:

Schools

Businesses

Industry

Points of interest

Areas of concern
Rivers/parks

Transportation (bus, train, shipping)

Any other important locations

[Insert PSAP name] public safety partners for these areas are:

Law enforcement agencies and jurisdictional boundaries

Fire departments and response areas

EMS agencies and response areas

While the above lists the specific agencies, please remember that there may be overlapping areas where multiple agencies, such as police departments, sheriff's departments, and Minnesota State Patrol have response jurisdiction. There are also mutual aid pacts which address calls for services or situations which require additional assistance.

For example, Interstate 94 (I-94) is primarily the Minnesota State Patrol's response area; however, in the event of a life-threatening accident or lack of available resources, the local police department or sheriff's department may also respond.

EMS response areas are defined ~~deveined~~ by the Minnesota Emergency Medical Services Regulatory Board (EMSRB), however in some instances, non-life-threatening transports may be handled by a contract agency.

Fire departments are also unique. Fire departments range from full-time paid fire departments to paid on-call departments to a combination of both. The status of some fire departments may change according to the time of day or the day of the week, which may dictate a unique response. These will be outlined in detail later in the training.

Chain of Command

According to MBASkool.com:

> Chain of command defines the reporting relationship in the organization and indicates which person in the organization reports to whom. It also tells the flow of authority and accountability of the employees within the organization. A chain of command indicates at what place in the organization does the decision making happen[2] (MBA Skool).

Each level of the chain of command has a specific responsibility that is outlined within the job descriptions. The higher the level in the chain, the more responsibility is required of the person holding that position.

Communications is a major component in the incident command structure. The chain of command in the ~~Incident Command System~~ Incident Command System (ICS) provides a standardized approach to command, control, and coordination of emergency response. Having

Commented [AR2]: Link is outdated, should be ICS Resource Center (fema.gov)

[2] MBA Skool, "Concepts of Human Resources, Chain of Command," https://www.mbaskool.com/business-concepts/human-resources-hr-terms/16140-chain-of-command.html. Accessed April 21, 2020.

a working knowledge of the agency's chain of command will alleviate confusion and miscommunications during high stress calls.

Within an organization, one may find several layers of this chain. Daily, one may report to a watch commander or shift supervisor. For performance reviews, one may have a specifically assigned supervisor. One may also have supervisors for specialty assignments, such as training or special events. It is important to know one's chain of command to maintain clear communications.

[Insert PSAP organizational chart]

[Insert agency organizational chart]

Code of Ethics

Every business, school, or organization has a code of ethics. A code of ethics is a set of guidelines which defines the expectations for one's action and behavior in accordance with an organization or profession's primary values and behavior. An agency's code of ethics may be found within a job description, vision statement, or policy and procedure manual outlining expectations for professional behavior.

[Insert appropriate department documents]

In addition, there are two professional emergency communications organizations, APCO and NENA. Both publish their own code of ethics. These codes are regarded as standards among emergency communication professionals.

APCO Public Safety Telecommunicators' Code of Ethics

> As a Public Safety Telecommunicator, I am dedicated to serve the public; to safeguard life and property; to keep my personnel informed on all calls that may require their attention; to assist all public safety vehicles and personnel in the performance of their duties; assure that all rules and regulations which govern my position are not violated in any manner.
>
> I will keep my private and social life free from~~form~~ all criticism; maintain a calm attitude during times of stress and emergencies; develop self-control and be constantly mindful of the welfare of others, regardless of race, creed, or religion. I will obey the laws of the land, rules, and regulations of the Federal Communications Commission and my department. Whatever information I receive of a confidential nature will be revealed only in the official performance of my duties.
>
> I will never act in a selfish or unofficial manner or let my personal feelings, friendships, prejudices or animosity influence my decisions. I will enforce the rules and regulations of my department and Federal Communications Commission without fear, favor, or ill will, never employing unnecessary force and never accepting gratuities.
>
> I recognize the high responsibility of my position as a symbol of public faith and trust and will accept it to be held as long as I am faithful to the ethics of public safety service. I will constantly strive to achieve those objectives and ideals, which govern my profession,

dedicating myself, before God, to my chosen profession, public safety telecommunications.

Author: Evert E. Carter, Chief Dispatcher, Williamson County Sheriff's department, Marion, Illinois 1981.[3]

National Emergency Number Association's Code of Ethics

Emergency Number Professionals (ENPs) must maintain professional standards of competence, morality and integrity. To accomplish this, the NENA Institute Board has adopted the following Code of Ethics as a guideline to ascertain that an individual is initially qualified and eligible to maintain status as an Emergency Number Professional, and to establish grounds for possible suspension or revocation.

1. ENPs shall place the needs of the public as their first priority.
2. ENPs shall obey all laws and regulations and should avoid any conduct or activity that would cause harm to citizens that they serve.
3. ENPs shall continually seek to maintain and improve their knowledge, skill and competence related to emergency communications, through education, training and other methods of self-improvement.
4. ENPs shall faithfully and diligently perform their assigned duties to the best of their ability.
5. ENPs shall foster awareness and understanding of the importance of emergency communications.
6. ENPs shall strive to meet the highest standard of personal conduct and maintain the integrity and reputation of Emergency Number Professionals by adhering to this Code of Ethics.[4]

One may wonder why there is such an emphasis on personal behavior and integrity. The reality is that at some point during one's career, one may be subpoenaed to testify in court. Personal and professional integrity may be called into question. Adhering to a high ethical standard reflects the professionalism and public trust which [insert agency name] has placed in its employees.

Another ~~The second~~ reason to adhere to a code of ethics relates to daily activities. Communications is a team effort. As such, one is part of the overall public safety response team and the communication center team. To maintain a healthy work environment, employees must always treat each other with respect. Each team member must fulfill their responsibilities in an efficient, professional manner in each call for service, with each public interaction and with each radio transmission. This is a profession where one's actions may involve a life or death decision. Adhering to a high code of ethics leads others to trust in one's ability to perform the duties to which one is entrusted.

[3] Carter, Evert E., Chief Dispatcher, Williamson County Sheriff's Department, Marion Illinois, 1981. https://www.apcointl.org/resources/911-info/9-1-1-public-information-education/public-safety-telecommunicators-code-of-ethics/. Accessed April 21, 2020.

[4] NENA Institute Board, ENP Policy and Procedure, June 5, 2019, pg. 11. https://cdn.ymaws.com/www.nena.org/resource/resmgr/enp/nena_institute_board_enp_pol.pdf. Accessed April 21, 2020.

The PST's behavior is also dictated by local, regional, state, and national best practices, policies, rules, and regulations. These standards will be referenced in each section to which they apply.

APCO – Minimum Training Standards

APCO is the international professional organization for public safety telecommunicators. Though some states have mandatory minimum training requirements, Minnesota does not require any minimum training standards or license. In the metropolitan region, the Metropolitan Emergency Services Board has adopted a minimum training standard for emergency communications professionals; this training manual is based on those guidelines. Many PSAPs follow the APCO training standards to train telecommunicators. APCO standards describe core competenciescompetences as "the unique traits, requisite knowledge, comprehension and application of skillssills and situational analysis leading to the appropriate response to the caller, co-worker, other public safety stakeholders or event(s) consistent with general practices and locally defined parameters."[5] (APCO)

[5] APCO International, Minimum Training Standards for Public Safety Telecommunicators, https://www.apcointl.org/standards/minimum-training-standards-forpublic-safety-telecommunicators/https://www.apcointl.org/download/recommended-minimum-training-guidelines-for-the-9-1-1-telecommunicator-pdf/?wpdmdl=6363. Accessed April 21, 2020June 9, 2023.

Section Review

1. What is the difference between a vision statement and a mission statement?
2. What values are articulated in these documents?
3. What is the basic mission of the public safety communications center?
4. What is the mission of the PST?
5. What agencies are served by the communications center?
6. What is chain of command?
7. Where does the PST fit into the chain of command?
8. Does the chain of command differ between police, fire, and EMS? If so, how?
9. What role does ethics play in the communications center?
10. Why is it important to maintain a high level of integrity both on and off duty?

Optional Exercises

1. Provide a map on which the trainee outlines the jurisdictional boundaries for police, fire, and EMS.
2. Give a list of important landmarks for the trainee to find on a map.
3. Ride along with an officer to give visual references to the above landmarks and to discuss the officer's communication needs.

Chapter 2: Legal Concepts

Scope:

This section deals with the legal obligations of the PST. Concepts such as confidentiality, liability, negligence, and duty will be discussed. Minnesota State Statutes, Minnesota Administrative Rules, and dispatch protocols will be introduced.

Learning Objectives:

1. To be introduced to the terms: liability, negligence, and duty.
2. To have a basic understanding of the privacy concerning 9-1-1 calls.
3. Learn how the department policies and procedures affect the actions of the PST.
4. To have a basic introduction to:
   a. HIPAA
   b. Data privacy
   c. Kelsey's Law
   d. Safe at Home

Organizational and Personal Integrity

This section deals with organizational and personal integrity. Agency policy and procedures are in place to ensure that the PST and the agency ensure the highest level of professionalism ~~as~~ possible. The policies and procedures are in place to reduce the exposure to liability. No one is 100% clear of liability for any call, but by following the established policies and procedures, this liability can be reduced.

Below are some definitions:

Duty: Duty is ~~a moral or legal obligation~~an obligatory task, conduct, service or function; a responsibility[6] (~~Oxford~~Merriam-Webster). Duty is a requirement to take action. For the PST, the responsibility to act begins with the first ring of the telephone. One has the responsibility to answer a 9-1-1 call as quickly as possible.

Negligence: Negligence is the failure to act or the failure to use reasonable care as would be exercised by another person in similar circumstances[7] (Merriam Webster). Intent for harm is not required to be present in instances of negligence, just a failure to take action or a breach of duty. If the PST ignores a ringing 9-1-1 line in hopes that another PST will answer the call, such action could be construed as negligence due to the lack of action.

Liability: The condition of being actually or potentially subject to an obligation; condition of being responsible for a possible, or actual, loss, penalty, evil expense or burden; condition which creates a duty to perform an act immediately or in the future. PSTs can be held liable for the actions they take or do not take. For example, if a PST does not verify a caller's address, which delays response, even if the error is quickly identified and

[6] ~~Oxford Dictionary. https://en.oxforddictionaries.com/definition/duty. Accessed January 15, 2018.~~Merriam-Webster Dictionary. https://www.merriam-webster.com/dictionary/duty. Accessed June 9, 2023.
[7] Merriam-Webster Dictionary. https://www.merriam-webster.com/dictionary/negligence. Accessed July 12, 2018.

corrected. In a lawsuit, the PST can be held responsible for the delay in EMS response, even if the response did not have an impact on the outcome of the call.

Vicarious Liability: "A legal doctrine referring to the imposition of liability on one person for the actionable conduct of another based solely on a relationship between the two persons. For example, the liability of an employer for the acts of an employee"[8] (APCO, 13).

Vicarious liability is the responsibility the supervisor holds for the actions of the PST. By reviewing the chain of command, the PST will see who is responsible for whom.

Department policies and procedures are in place to outline the PST's duties and responsibilities. They are also in place to limit the liability a PST may carry in the event of a lawsuit or disciplinary action. When questioning what action needs to be taken or not taken, ask the on-duty supervisor or assigned supervisor for direction.

Criminal Law Versus Civil Law

Law enforcement usually deals with criminal law. According to Brian Duignan, "Criminal law governs behavior that is or can be construed as an offense against the public, society or the state – even if the victim is an individual." Criminal laws are designed to keep society safe. Examples of offenses which fall under criminal laws or codes are driving under the influence, murder, assault, and other actions that may adversely impact the safety and well-being of the public.

Civil law deals with behavior that constitutes an injury to an individual or other private party. Duignan states, "Civil disputes involve such things as libel, slander, defamation of character, breach of contract or other acts which impact a single individual or corporation"[9] (Duignan). Civil cases are brought by an individual against another individual. Examples of civil cases are eviction due to non-payment of rent, a dispute over a bill for car repairs, late child support payments, and numerous others.

While the PST usually handles calls regarding criminal or safety events, he/she/they may also receive calls for civil disputes. Each agency may handle civil cases differently, depending on circumstances. Agency specific guidelines are as follows:

[Insert agency specific policies and response guidelines]

Data Practices

Retention

Minnesota Statutes give clear direction regarding 9-1-1 call recordings and retention. This statue was written at a time when all 9-1-1 tapes were large reel-to-reel tapes. The space to

[8] APCO, APCO ANS 3.101.3-2017, pg. 13. https://www.apcointl.org/~documents/standard/31013-2017-cto/?layout=default~~https://www.apcointl.org/download/competencies-training-requirements-for-public-safety-communications-training-officers/?wpdmdl=6287~~. Accessed ~~January 15, 2018~~June 9, 2023.

[9] Duignan, Brian, "What is the Difference Between Criminal Law and Civil Law?," Encyclopedia Britannica. www.britannica.com/story/what-is-the-difference-between-criminal-law-and-civil-law. Accessed April 15, 2018.

store more than 31 days of tapes was immense. If a tape needed to be held for evidence, new tapes needed to be put into circulation; this was a cumbersome process. Today's recordings are digital and take less space. The legal retention period gives a minimum retention period required; however, longer retention periods are acceptable. Retention tables must be on file with the Minnesota Historical Society. Minnesota Administrative Rules 7580.600, Subd. 5 reads as follows:

> Recording calls. The PSAP manager shall develop and maintain a system for recording 9-1-1 calls received by the PSAP. The records shall be retained for a period of at least 31 days from the date of the call and shall include the following information: date and time the call was received; nature of the problem; and action taken by the dispatcher. A magnetic tape recording will satisfy this requirement.

[Insert agency retention policy]

Audio Recordings

Minnesota is one of the few states which does not allow the audio recording of the 9-1-1 call to be released to the general public. The exception is if the caller gives written permission to release ~~his/her~~the call to the public. A written transcript is considered public information. Actual costs associated with transcribing the call can be charged to the requesting individual. The second exception is for training purposes. Calls can be reviewed and played for public safety training purposes only. Any other sharing of the actual audio of the call is prohibited. Minnesota State Statute 13.82, Subd. 4, covering audio recordings states:

> The audio recording of a call placed to a 9-1-1 system for the purpose of requesting service from a law enforcement, fire or medical agency is private data on individuals with respect to the individual making the call, except that a written transcript of the audio recording is public, unless it reveals the identity of an individual otherwise protected under subdivision 17. A transcript shall be prepared upon request. The person requesting the transcript shall pay the actual cost of transcribing the call, in addition to any other applicable costs provided under section 13.03, subdivision 3. The audio recording may be disseminated to law enforcement agencies for investigative purposes. The audio recording may be used for public safety and emergency medical services training purposes.

As the 9-1-1 call is considered evidence, especially in domestic assault cases, the PST may receive a subpoena to appear in court to testify to her/his actions during and after the call. Special training and/or instructions may be provided by the county/city attorney's office, the PST supervisor, or other trained personnel.

For more information on public safety department data practices, see Minnesota State Statutes 13.69.

Media/Information Dissemination

Every agency has a policy on dissemination of information to the media. Some may have specific officers assigned to public relations, other utilize the Chief or other law enforcement officer. Fire and EMS disciplines engage in many of the same or similar information dissemination policies. The PST must ensure that ~~he/she~~he/she/they do~~es~~ not inadvertently release information through general conversations with media personnel or other non-authorized individuals.

[Insert agency information dissemination protocol]

Health Insurance Portability Accountability Act (HIPPA)

The are other statutes and laws which give directions in the official duties of a PST. The Health Insurance Portability Accountability Act (HIPPA) covers what information can be shared between the caller, the PST, and the responders. Health information given over the radio or mobile data computer (MDC) to a public safety responder must comply with HIPAA. Generally, most PSAPs are not HIPAA covered entities and therefore HIPAA does not apply. Even those that may be, such as PSAPs owned and operated by an EMS health care provider, are permitted to any disclosure of personal health information that is necessary for patient treatment purposes. This covers most EMS related transmissions between the PSAP and field responders.[10]

Click here for more information on HIPAA.

Kelsey Smith Act

The Kelsey Smith Act was signed into Minnesota law in 2010. This act requires cell phone companies to turn over to law enforcement records that show the location of a person who is missing and/or in danger. The PST may be asked to contact a cell phone company's security department to "ping" a phone. The ping is an electronic signal which pinpoints a phone's location. In the event of an emergency cell phone companies may request an administrative subpoena which gives the cell phone company the phone number to ping, the nature of the emergency, the case file number, and the requesting officer's name. This act only covers immediate emergencies. All other location inquiries require a subpoena.

Safe at Home

Minnesota Statutes Chapter 5B and Minnesota Rules Chapter 8290 cover the Safe at Home program. This program is designed for those individuals who fear for their safety to maintain a confidential address. When someone enrolls in Safe at Home, they are given an address which is a post office box number with an additional lot number, this becomes the participant's legal address.

All participants have the same post office box number. The lot number is unique to specific individuals. The physical address of the participant is kept private within the Minnesota Secretary of State's Office. If a participant calls 9-1-1, the automatic location information (ALI) and automatic number information (ANI) screen will be displayed as is done in all other 9-1-1 calls. The PST must verify the location according to best practices for all 9-1-1 calls.

Additional best practices for law enforcement are outlined on the Minnesota Secretary of State's website.

[Insert agency-specific guidance here]

[10] Wolfberg, Douglas, Stephen R. Wirth & Ryan. S. Stark, "HIPAA Didn't Kill the Radio Star." https://psc.apcointl.org/2010/08/26/hipaa-radio-emd/. Accessed April 15, 2018.

Section Review

1. Explain how an agency's policies and procedures impact the liability of the PST.
2. Discuss the differences between duty and negligence.
3. Review the data retention of the 9-1-1 logs and why 9-1-1 calls are retained.
4. Discuss the importance of the Kelsey Smith Act. How does it impact the pinging of cell phones?
5. Safe at Home has several benefits and concerns. Discuss with your trainer these benefits and concerns.
6. HIPAA is heard often with regards to sharing of health information over the radio. Discuss with your trainer the impact of HIPAA when dispatching medical emergencies.

Chapter 3: Interpersonal Communications

Scope:

Interpersonal communications in the PSAP takes several forms. This chapter introduces the PST to the concept of active listening. Barriers to clear communications, communications style, and de-escalation techniques will be introduced.

Learning Objectives:

1. To understand the differences between hearing and listening.
2. To learn what may be barriers to clear communications.
3. To understand how one's own bias and beliefs affect communications.
4. To understand how the communications cycle works.
5. To explore de-escalation techniques and ways of controlling a call.

Listening Versus Hearing

Early studies on communications estimated that 93% of communication is non-verbal, with the spoken word comprising just seven percent (7%) of all communication. More recent studies determined that 70% of all communication is the interpretation of body language. Tone of voice, speed, enunciation, and volume comprise 23% of spoken communication; this leaves only seven percent (7%) of communication based only on words[11] (Aurora Employee Assistance Program).

While listening and hearing are often used interchangeably, these terms have very different meanings. Hearing is one of the PST's five senses. Hearing is perceiving sound[12] (UMD). It is receiving sounds waves through one's ears. Hearing occurs all the time whether one realizes it or not. It is the biological function of the ears.

Listening is the act of consciously hearing sound and understanding the meaning of the words (UMD). The PST relies on active listening to gather and process information. One's normal rate of speech is 125 to 150 words per minute. The human brain can process 400 to 800 words per minute (Aurora). This excess brain computing power allows the PST to process not only the spoken word, but also voice inflection, speed, background sounds, and other sounds which comprise the caller's message.

Barriers to Clear Communications

The inflection placed on words can change how a PST perceives a message. Voice inflections, volume, and tone can impact the interpretation of the spoken word. This is especially true when the conversation does not contain the visual clues of ~~fact~~face-to-face communication. Read the following message out loud, placing the emphasis on the word in **BOLD CAPITALIZATION**:

Commented [AR3]: Link does not work, not sure where to find appropriate site.

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Commented [AR5]: Link does not work, not sure where to find the appropriate site.

[11] Aurora Health Care Employee Assistance Program, "The Art of Communication." ~~www.marquette.edu/hr/documents/the-art-of-communicaion.pdf~~. ~~Accessed February 18, 2018.~~ As of June 9, 2023, this link is no longer accessible.

[12] University of Minnesota, Duluth, "Hearing vs. Listening." https://open.lib.umn.edu/publicspeaking/chapter/4-1-listening-vs-hearing/~~www.d.umn.edu/kmc/student/loon/acad/strat/ss_hearing.html~~. Accessed ~~February 18, 2018~~June 9, 2023.

I didn't say he stole the money.
I **DIDN'T** say he stole the money.
I didn't **SAY** he stole the money.
I didn't say **HE** stole the money.
I didn't say he **STOLE** the money.
I didn't say he stole **THE** money.
I didn't say he stole the **MONEY**.[13] (Power Phone)

As one reads the sentences, notice how the inflection changes the concept of the meaning. Is the sentence defending the speaker (I) as in the first three sentences? Is the speaker clarifying what the subject (he) did or did not do? Each time a different word is emphasized, the interpretation of the sentence changes.

While this exercise shows one barrier to communication, there are additional barriers which may affect the ability to listen and interpret conversations correctly. The PST's interpretation of spoken words may be clouded by his/her background. As a call taker, the PST should be aware of barriers faced in communication. Some additional barriers are:

- Jumping to conclusions – based on the PST's background, experiences, and values. The PST needs to be cautious of jumping to conclusions by assuming what the caller will say next.
- Making assumptions – based on the caller's speech pattern. The PST may unconsciously make negative assumptions of the caller's truthfulness, bias, economic, or other lifestyle situations.
- Tuning out ideas or values which conflict with one's own values or ideas, thus not listening to the message. These can be racial, religious, cultural, socio-economic, or other ideas or values.
- Preparing a response or talking to another person, rather than listening to the entire message. While this occurs in face-to-face communication, it is especially important to be aware of this during phone conversations. Momentarily dropping out of a conversation to answer a co-worker, responder, or just to focus on a CAD entry may cause the PST to miss a critical piece of information.
- Using unintended vocal intonations, such as sighs, coughs, groans, volume (too loud or too soft), or emphasis on specific words. As in the bullet point above, this can be an unconscious response to a caller or situation. The PST may need to clarify a message if the caller's speech pattern is difficult to understand. The PST must also be aware that ~~he/she~~he/she/they could send the same unclear communication if his/her own communication style contains such vocal elements. Many people, PSTs included, talk to themselves out loud. PSTs must be aware of how their communication affects the caller.

The diversity of the population also impacts communications. Diversity encompasses age, race, gender, ethnicity, culture, sexual orientation, physical ability or limitations, socio-economic status, religious or political beliefs, and other ideologies. As a PST, one will encounter diversity.

[13] Power Phone, "Teaching Interpersonal Communications Skills to New Telecommunicator Hires." ~~https://powerphone.com/teaching-interpersonal-communication-skills-to-new-telecommunicator-hires/~~https://powerphone.com/teaching-interpersonal-communication-skills-to-new-telecommunicator-hires/. ~~Accessed February 18, 2018.~~ As of June 9, 2023, this link is no longer accessible.

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As the population becomes more diverse, the PST is challenged to become more effective in maintaining the communication cycle.[14]

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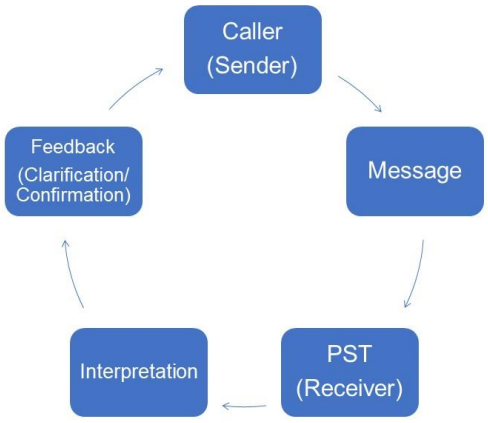
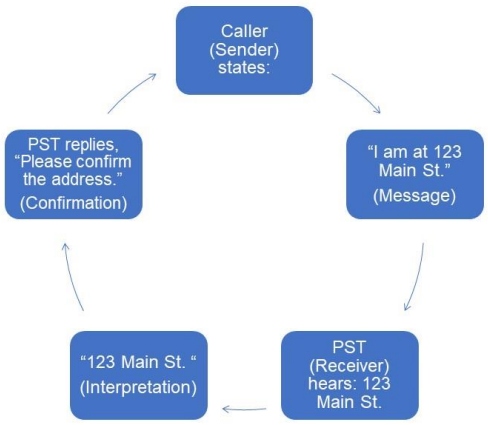
Communication Cycle

The communication cycle is a continuous loop of sending, receiving, and clarifying messages. The caller provides information (messages) to the PST. The PST interprets what he/she thinks the caller said. Confirmation, clarification, or feedback is given to the caller by the PST to ensure the caller's information (message) has been received correctly.

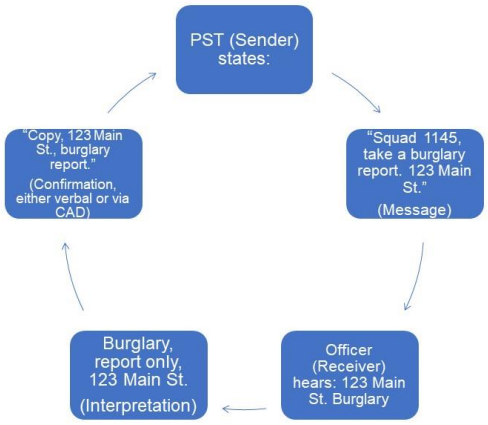


This communication cycle is used on every call, both with the public and public safety field-responders. Every time the PST requests verification of an address from a caller, the communication cycle has made one revolution. Below is a common example of the communication cycle.

[14] Queensborough Community College, "Diversity." www.qcc.cuny.edu/diversity/definition.html. ~~Accessed February 20, 2018.~~As of June 9, 2023, this link is no longer accessible.



When the communication cycle is between the PST and a public safety field-responder, the elements of the cycle remain the same. Repeating information may or may not be necessary, depending on the technology being used. When CAD is used, the information may be voice or CAD-dispatched. The "feedback/clarification" stage can be confirmation of the information via the written information in CAD.

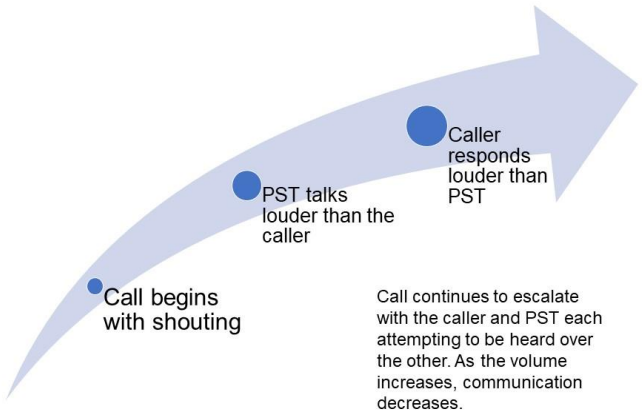


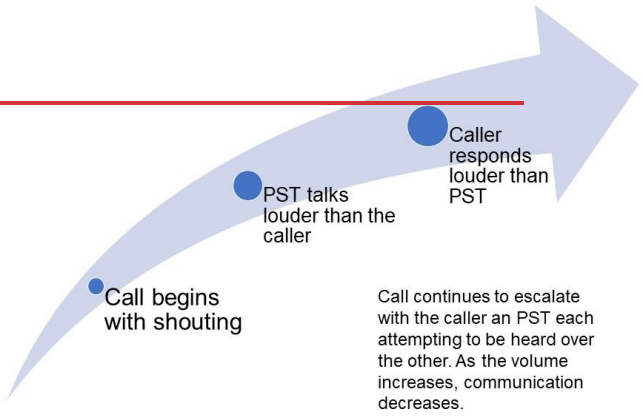
With each piece of information given, the communication cycle repeats. Through the interpretation and feedback both individuals ensure that the correct information is given and received.

De-~~Escalation~~ escalation Techniques

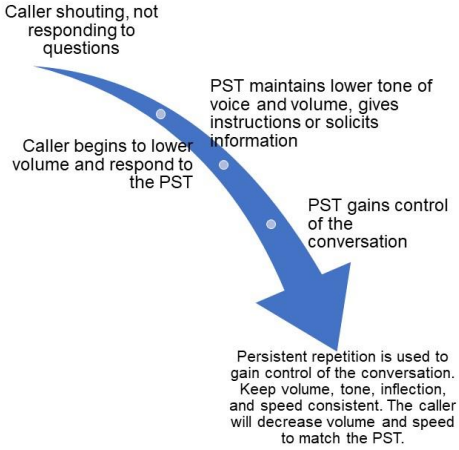
While the communication cycle looks easy on paper, it is far from simple. Facing a crisis, callers can often be emotional; the caller may have difficulty thinking clearly. One may be crying, screaming, or shouting. The caller may have difficulty answering questions or following instructions. These barriers to clear, concise communication need to be controlled by the PST to the best of her/his ability. There are several techniques which have proven successful in de-escalating communication:

- Be patient, sound patient. Remember that calling 9-1-1 is the result of the caller needing assistance. This may be the only time the caller contacts 9-1-1. The PST may not believe the caller has a true emergency, however to the caller, the situation may be a true crisis.
- Assist the caller in keeping focus on listening to you, the PST. This will minimize anxiety and lower emotions. If needed, direct the caller to think about focusing on the questions being asked. Reassure the caller that these questions assist in assigning the correct responders to the call.
- Use persistent repetition. It is natural to attempt to talk louder than the caller to gain control of the conversation. This power struggle only escalates the call.





- The PST, using a consistent lower volume, steady tone of voice, pitch, and inflection, will gain control of the conversation. Repeating questions or giving instructions at a lower volume and pitch than the caller, draws the caller down. This repetition may need to be done several times before the caller begins to respond.



- Maintain an appropriate rate of speech. Remember that the caller is in crisis mode. The caller may not be able to process questions as quickly as the PST expects. Remember that the rate of speech is between 125 to 150 words per minute. However, people hear

at 400 to 800 words per minute. There may be a delay between asking a question and hearing the answer.

- Use appropriate emotional tone. This involves learning to gauge the response of the caller. The PST does not have the benefit of the visual part of communication. The PST must rely on having the proper verbal response to the caller and project empathy, understanding, and confidence. ~~to the caller~~.
- Articulate clearly. The use of acronyms, professional terminology, or slang may confuse the caller, thus impeding the exchange of information. Professional language reflects professional behavior.
- Establish a rapport with the caller by using the caller's name, when appropriate. This is especially important when dealing with a suicidal caller. By using the caller's name, the PST begins to develop a relationship with the caller. It subtly acknowledges and affirms the caller's identity.
- The PST must be aware of their own emotions and bias. The PST hears through his/her personal filters. It is important to recognize emotional triggers which may affect the interaction between the caller and the PST.[15] (APCO)

Commented [AR10]: Link does not work. Not sure where to find the appropriate site.

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Language Line Translation Services

Language diversity becomes more problematic as the population changes. There is assistance available when dealing with language barriers. The State of Minnesota provides telephone translation services through the Language Line. The Language Line provides translation services for over 140 different languages. For the PSAP, this service is free of charge for emergency calls. For non-PSAP calls, there is a fee charged to the agency. The Language Line access code should be sued for the PSAP only. Each agency has its own unique identifier which is needed when Language Line is engaged.

To hear a demonstration of the Language Line, call 1-800-996-8808.

The Language Line number for active calls is: *[Insert Language Line phone number].*

The one-button transfer for conferencing in Language Line is labeled: *[Insert PSAP Language Line label]*.

The agency ID is: *[Insert agency ID here].*

Commented [AR12]: Is this process still accurate for all? At Ramsey County, there is built in identification when we dial the number for Language Line and we do not have to identify ourselves with a code

Additional information regarding Language Line can be found on the Minnesota Department of Public Safety's website.

When calling the Language Line, the PST will be asked for the agency ID and language needed. The Language Line will connect the PST and caller with the correct Language Line translator. These translators will translate the message only; they do not interpret the messages being translated. The translator cannot answer questions directly. Much like dealing with a hard of hearing caller, only one person may speak at a time. Since these calls are conferenced together, the PST can continue monitoring the call for background sounds, voice quality and ~~(~~other~~?)~~ elements.

Commented [AR13]: Again, is this still accurate?

[15] Reichman, Stephen H. Sr., "High Performance CPR." www.apcointl.org/download/cde-44542-high-performance-cpr/?wpdmdl=6080&ind=0. ~~Accessed February 20, 2018~~. As of June 9, 2023, this link is no longer accessible.

Deaf and Hard of Hearing Callers

The Deaf and hard of hearing community is another diverse population with which PSTs engage. If someone in this community contacts 9-1-1 directly, they will use either a TDD/TTY machine or use text messaging on their wireless device. Text to 9-1-1 is supported in all PSAP service areas in Minnesota. As covered in Emergency Communications Technology and Information Systems (Chapter X), some callers will use American Sign Language, while others will use standards English. With text to 9-1-1 messaging, do not use acronyms or abbreviations unless used by the caller. The PST may need to ask for clarification or request that the caller not use acronyms or abbreviations in text messages. Be aware of the communication language that is unique to the TDD/TTY.

Instead of contacting 9-1-1 directly with TDD/TTY, or text to 9-1-1, Deaf or hard of hearing callers may use the Minnesota Relay Service. Much like the Language Line, the translator will not interpret messages or independently attempt to clarify information; the translator will only translate the conversation. Additional information on the Minnesota Relay Service may be found on the Minnesota Department of Commerce's website.

The PST must develop a higher level of skill regarding communications. Active listening, being aware of the communication cycle, and de-escalation skills will develop with practice. Remembering that cultural differences, language, age, and values all can hinder clear communication. Persistent repetition, de-escalation techniques, and the knowledge of the communication cycle will assist the PST in developing the skills needed to be successful in this profession.

Section Review

1. What is the difference between hearing and listening?
2. How does word inflection change the meaning of a sentence? Why is this important to know?
3. List three barriers to clear communication and explain how they are barriers.
4. Describe the communication cycle.
5. What is persistent repetition?
6. How does the Language Line assist the PST?
7. Describe how the Minnesota Relay Service works?

Optional Exercises

1. With the Communications Training Officer (CTO) or another trainee, sit back-to-back with one PST describing to the other PST how to create a Lego model by descriptions only.
2. Using a shuffled deck of cards, the PST should sort the deck of cards into suits while processing a mock call. (Listen, ask clarifying questions, determine background noise, etc.)
3. Listen to the audio log transcripts of various types of calls. Listen for conversation, voice inflection, background noise, etc. which may affect public safety response.

QUICK REFERENCE GUIDE

Minnesota 911

Keep this Quick Reference Guide (QRG) nearby for easy reference to effectively utilize Language Line® Over-the-phone Interpretation Service.

WHEN RECEIVING A CALL:

1. Dial: **1-888-XXX-XXXX** (Client ID is prepopulated so you don't need to enter it)
   This is a private/dedicated number for interpreter access during a 911 call only.
   PSAPs should contact Dana Wahlberg at dana.wahlberg@state.mn.us for this number
2. Enter on your telephone keypad or provide the representative:
   - Press 1 for Spanish
   - Press 2 for Somali
   - Press 3 for Hmong
   - Press 4 for all other languages and speak the name of the language you need at the prompt.

   If having difficulty or need assistance Press 0 or say "help" at any time.
   An Interpreter will be connected to the call.
3. Brief the Interpreter. Summarize what you wish to accomplish and give any special instructions.
4. ADD THE limited-ENGLISH SPEAKER to the line.
5. Say "End of Call" to the Interpreter when the call is completed.

IMPORTANT TIPS:

UNKNOWN LANGUAGE – If you do not know which language to request, our representative will help you.

LINE QUALITY PROBLEMS – If you have problems before reaching a representative, press "0" to be transferred. If there is a sound quality problem, ask the representative to stay on the line to check for sound quality. If you have problems connecting to an Interpreter call Customer Service at 1-800-752-6096.

WORKING WITH AN INTERPRETER – Give the Interpreter specific questions to relay. Group your thoughts or questions to help conversation flow quickly.

LENGTH OF CALL – Expect interpreted comments to run a bit longer than English phrases. Interpreters convey meaning-for-meaning, not word-for-word. Concepts familiar to English speakers often require explanation or elaboration in other languages and cultures.

INTERPRETER IDENTIFICATION – Our Interpreters identify themselves by first name and number only. For reasons of confidentiality, they do not divulge either their full names or phone number.

DEMONSTRATION LINE – To hear a recorded demonstration of over-the-phone interpretation call our demonstration line at 1-800-996-8808 or visit our website at www.LanguageLine.com

DOCUMENT TRANSLATION – We also provide written translation services, for more information please contact our Document Translation Department at 1-888-763-3364 or email translation@languageline.com.

CUSTOMER SERVICE – To provide feedback, commend an Interpreter, or report any service concerns, call Customer Service at 1-800-752-6096.

Language Line Services • 1 Lower Ragsdale Drive, Bldg. 2 • Monterey, CA 93940

www.LanguageLine.com

Chapter 4: Radio Communications

Scope:

The State of Minnesota's Department of Transportation owns and operates the backbone of the Allied Radio Matrix for Emergency Response (ARMER) radio system. This section will introduce the PST to the radio system and the best practices developed by the Statewide Emergency Communication Board (SECB), and its Land Mobile Radio Committee, Interoperability Committee and the Dispatch Best Practices Workgroup.

Learning Objectives:

1. To successfully complete the Alexandria Technical and Community College online training modules for the ARMER system.
2. To understand the basics of the ARMER system.
3. To learn the flow of the ARMER system as it relates to the PST's local, regional, and statewide communications responsibility.
4. To have a basic understanding of proper radio protocols.

Allied Radio Matrix for Emergency Response (ARMER)

Background[16] (ECN)
Lack of integrated communications is listed among the highest concerns when public safety field-responders and PSTs ~~public safety communications specialists~~ participate in critical incident reviews. Radio technicians cite the lack of radio spectrum availability as a mitigating factor regarding technology integration. Historically, public safety radio communications transmitted via Ultra High Frequency (UHF) or Very High Frequency (VHF). Neither system lends itself to shared communications. With the need for better spectrum allocation, ARMER system planners used APCO Project 25 standards to migrate public safety to a shared 700 and 800 MHz system.

The migration led to the ARMER system which is an 800 MHz trunked radio system operating throughout Minnesota. Governed by the SECB with authority from Minnesota Statutes Section 403.20 through 403.40~~.~~ , ARMER is divided into seven regions. The core radio backbone is owned by the Minnesota Department of Transportation (MnDOT), which began building the system in the Twin Cities metro region in the early 2000s, with the St. Cloud and Rochester regions following. MnDOT had 97% of the statewide backbone tower sites completed and on the air in January 2016. With the buildout essentially complete, today's focus in on maintenance and system enhancements.

Best Practices
Approved by the SECB, the ~~Minnesota Dispatchers Communications Best Practices Guide~~ Minnesota Public Safety Telecommunicator Communications Best Practices Guide serves as both a training guide and a resources manual for PSTs.

[16] Minnesota Department of Public Safety, ARMER. www.dps.mn.gov/divisions/ecn/programs/armer/Pages/default.aspx. Accessed January 18, 2018.

Training[17] (SECB)
The Minnesota ~~Dispatchers~~ PST Communications Best Practices Guide requires all new PSTs to complete the online ARMER courses hosted by the Alexandria Technical and Community College. Specifically, the following modules are required:

- Radio 101
- History of ARMER
- Interoperability 101
- Interoperability: How to Communicate Outside Your Agency
- Computer Basics for Dispatchers
- Dispatcher Technology, Part I
- Dispatcher Technology, Part II
- MCC7500 Dispatch Console, Part I
- MCC7500 Dispatch Console, Part II
- Dispatch Scenario Module

These training modules are available on the Alexandria Technical and Community College's website. There is a username and password for the Metro Region; some PSAPs also have their own login information. Please check with your supervisor to determine which login information to use.

The Metro Region's username is *Metro*.

Login passwords change every 180 days. Please contact the MESB's Radio Services Coordinator at (651) 643-8398 or the MESB's ~~Director of~~ 9-1-1 ~~Services~~ Manager at (651) 643-8377 to obtain the regional password.

Note that the ID and password are case sensitive.

In addition to the ARMER training, FEMA/NIMS training is also required. These classes are available online. Please refer to the Emergency Management section of this training guide for required online training.

ARMER Training Highlights

ARMER Coverage Maps
With the exception of Red Lake County, all Minnesota counties use the ARMER system as their primary method of public safety radio communication. Red Lake County is currently a limited participant in ARMER, as it has not fully integrated into the system.

Seven regional emergency communications boards were formed in the mid-2000s. Each region has both local and regional radio resources called talkgroups to communicate with local departments and neighboring jurisdictions.

Additionally, statewide and national talkgroup resources are available for larger events or those spanning regions.

[17] Statewide Emergency Communication Board, "Minnesota PST Communications Best Practices Guide." https://dps.mn.gov/divisions/ecn/Documents/Telecommunicator_Best_Practice_Guide_2021_12_23.pdf. Accessed April 4, 2023.

The seven regions comprising the ARMER system are:

1. Northwest
2. Northeast
3. Central
4. Metro
5. Southwest
6. South Central
7. Southeast

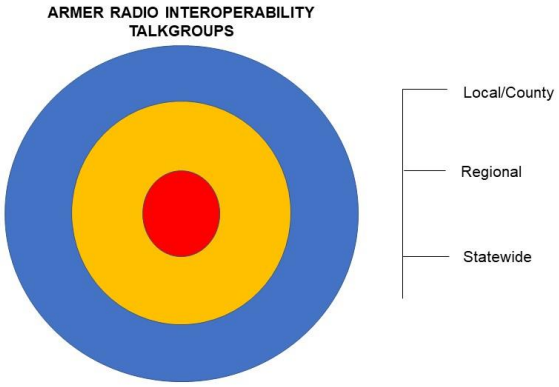
The metro region is comprised of ten counties:

1. Anoka
2. Carver
3. Chisago
4. Dakota
5. Hennepin
6. Isanti
7. Ramsey
8. Scott
9. Sherburne
10. Washington

The SECB website contains maps and information on each of the regions. Other maps of ARMER participation status are available on ECN's website.

Talkgroups and Talkgroup Priorities

The ARMER radio talkgroups are arranged much like a target. Local talkgroups comprise the bull's eye with regional, statewide, and national resources comprising the ever-widening circle. Only as an event moves out from the center does the PST need to patch from local to regional to statewide to national talkgroup resources.



The center of the bull's eye comprises the local and county-wide talkgroups, which handle daily and routine radio traffic. Use of local and county-wide tactical talkgroups (TACs) are assigned ~~with emergency communications~~ starting with the lowest numbered TAC moving through to the highest, (1-10). For training and scheduled events, the highest number TACs shall be assigned working down to the lowest numbered resource (10-1).

Moving out from the bull's eye, the next level is the regional talkgroups. These are reserved for those incidents which include response from multiple agencies, possibly from different counties, but stays within the region. Again, the same priorities regarding talkgroup use remain. Emergency/critical communications begin with the lowest numbered talkgroup and move to the highest (1-10). Routine, scheduled, and training communications begin at the highest and work toward the lowest (10-1). It is important for the PST to understand in which region they are located and where the regional boundaries are located, as this will dictate when a patch is needed to a regional or statewide talkgroup. In the metro region, the primary regional interoperability talkgroups are the ME TACs.

The next ring is the statewide talkgroups (STACs). As an incident expands, it is important to understand when the decision is made to use a statewide resource. For those PSAPs which border another region, it is imperative to know when a jurisdictional boundary has been crossed. The PST is required to patch to the appropriate resource to enable all responders to communicate quickly and seamlessly.

For those counties and regions which border a state boundary, it is also important to understand the ability to use national resources such as VCALL10, VTAC11-14, 8CALL90, and 8TAC91-94. These are used in the event of an interstate response.

Fleet Map

Each agency is required to have a fleet map of all available resources. The fleet map for [Insert agency name] is:

[Insert agency fleet map]

StatusBoard
An important tool of the PST is the StatusBoard. The StatusBoard is the means of notifying all PSAPs and PSTs which shared resources are in use and/or reserved for training or exercises. StatusBoard is required to be completed, online, when regional or statewide talkgroup resources are used. When using StatusBoard, PSTs must include the date, time frame, resource(s) used, by whom, and the reason for use. Emergency or critical events take precedence over routing training or exercises. Upon completion of the event, the resources must be released for other uses. This can be done by clearing the StatusBoard and announcing that the talkgroup is being cleared.

Both the MESB and the ~~SECB~~SECB have standards governing the use of StatusBoard.

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Specialized Personnel

Communications Unit Leader (COML)
By Federal Emergency Management Agency (FEMA) definition, a Communications Unit Leader (COML) "designs, orders, manages, and ensures the installation and maintenance of all communications systems." COML responsibilities include developing plans for the effective use of incident communications equipment and facilities, managing the distribution of communications equipment to incident personnel, and coordinating the installation and testing of communications equipment[18] (SECB). Many PSAPs have PSTs which have received COML training. A COML is a valuable resource in large events as they develop appropriate communications plans and can coordinate talkgroups on a statewide level.

Communications Unit Technician (COMT)
The Communications Unit Technician (COMT) is a specialized position which lends technical expertise to the COML. "COMT responsibilities include assisting COMLs to develop plans for the effective use of incident communications equipment and facilities, providing and tracking communications equipment distribution to incident personnel, and training incident personnel on the operation of communications equipment."[19] (SECB)

Specific information on Communications Unit positions, training and operational requirements may be found in the Minnesota Communications Unit Standard Operating Guidelines.

Metro Region Communications Response Taskforce (CRTF)[20]
The MESB supports the Metro Region All-Hazards Communications Response Taskforce (CRTF). The Metro Region CRTF is an ICS-trained, all-hazards personnel resource which may

[18] Statewide Emergency Communications Board, "Minnesota Communications Unit Standard Operating Guidelines," page 3. https://dps.mn.gov/divisions/ecn/programs/interoperability/Documents/COMU%20SOG%20and%20forms/COMU%20SOG%20--%20V2-0%20--%202019-08-22.pdf. Accessed April 14, 2020.
[19] Statewide Emergency Communications Board, "Minnesota Communications Unit Standard Operating Guidelines," page 3-4. https://dps.mn.gov/divisions/ecn/programs/interoperability/Documents/COMU%20SOG%20and%20forms/COMU%20SOG%20--%20V2-0%20--%202019-08-22.pdf Accessed April 14, 2020.
[20] Metropolitan Emergency Services Board, "Metro Region Communications Response Task Force (CRTF)." https://mn-mesb.org/crtf/ Accessed April 14, 2020.

be requested by agencies to assist in the field, the command post, the emergency operations center (EOC), or the PSAP. The Metro Region CRTF serves as Minnesota's Telecommunicator Emergency Response Taskforce (TERT). TERT teams were developed to lend communications assistance to PSAPs in the event of a large-scale natural disaster or other large long-term event. More information on TERT will be provided in Chapter 6 – Emergency Management.

The Metro Region CRTF ~~response~~ responds to requests for assistance, based on established standard operating procedures (SOPs) following local, state, and national standards. A requesting agency can expect an advance team to include a COML, COMT, and an Incident Dispatcher. The CRTF can be an expertise or personnel resource and may assist with logistics if communications personnel or equipment is needed. The team can assume radio duties for the incident or event and can be a resource to support trouble-shooting and managing equipment, documentation, and resource deployment. Personnel assist the incident commander with incident management support in the field or at the command post by completing ICS paperwork, maintaining status and accountability of equipment personnel and units on the scene, and relaying pertinent information back to the communications center or EOC. The team can also deploy directly to an EOC or communications center to assist another PSAP.

To request a CRTF deployment, the PST should contact the Minnesota State Duty Officer, which is available 24x7 at (800) ~~533-0798~~422-0798 or (651) 649-5451.

For planned events, exercises, and general CRTF or TERT information, contact the MESB Radio Services Coordinator at (651) 643-8398 or tfredrick@mn-mesb.org.

Additional information, resources and links may be found on the MESB's website.

Proper Radio Protocols

While radio technology and management are important, it is equally important for the PST to understand and use proper radio procedures and protocols. While each agency has its own specific protocols, there are several universal radio protocols which shall be observed:

1. Formulate the transmission before engaging the radio.
2. Be brief and concise.
3. Do not use slang or unprofessional language.
4. Ensure the talkgroup is clear prior to keying the mic.
5. When keying the mic, wait for the talk permit tone prior to transmitting
~~4.~~6. Use entire call signs.
~~5.~~7. Avoid airing names, unless absolutely necessary.
~~6.~~8. Use phonetic alphabet.
~~7.~~9. Speak in normal tone and rate of speech.
~~8.1. Ensure the talkgroup is clear prior to keying the mic.~~
~~9. When keying the mic, wait for the talk permit tone prior to transmitting.~~
10. Use plain language.
11. Use of ten-codes is not recommended. Some pre-determined codes are permitted however, plain language should be used to avoid miscommunication whenever possible.

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In addition to the universal protocols, the PST may be required to format communications in agency-specific SOP. These SOPs shall be followed when communicating with local responders. When dealing with mutual aid communications, plain language must be used, and entire call signs should be used; use of ten-codes is not allowed.

Agency-specific SOPs are:

[Insert phonetic alphabet]

[Insert agency-specific ten-code list, if applicable]

[Insert agency-specific SOPs]

MCC 7500 Radio Consoles

While the Motorola MCC 7500 is the standard radio console in Minnesota, the programming of each console may be different based on agency or usage. Law enforcement talkgroups will have a specific configuration based on local mains, mutual aid needs, and other agency-specific factors. Fire and EMS talkgroups also reflect the specific needs of the discipline and agency. For [insert PSAP name], the basics of the console configuration and usage are as follows:

[Insert agency radio console information]

Section Review

1. What talkgroups are used for daily routine traffic?
2. What are the benefits of the ARMER system that are not available on conventional radio systems?
3. In emergency situations, which shared talkgroups are used first and why?
4. The PST has reserved several regional resources for a training event. An in-progress event has transpired. In what circumstances would the training event need to release its resources?
5. What are some reasons it is important to follow proper radio protocols when communicating with field-responders?

Chapter 5: Emergency Communications Technology and Information Systems

Scope:

The scope of this unit is to gain an understanding of the technologies involved in public safety communications. Terminology associated with call delivery, call processing, and dispatch infrastructure will be introduced.

Learning Objectives:

1. To understand the differences between basic, enhanced, and Next Generation 9-1-1.
2. To identify the elements of the 9-1-1 screen.
3. To introduce the different means of communication for the Deaf and hard of hearing community.
4. To understand the impact of various technologies such as:
    a. Telematics
    b. Geographic Information Systems
    c. Logging Recorders
    d. Community Notification Systems
    e. Computer-Aided Dispatch Systems

Technology

Public safety communications technology is ever-evolving. Within the PSAP, one deals with complex telephone systems, logging systems, mapping, Computer-Aided Dispatch (CAD) systems, as well as a host of software applications. As one begins one's PST career, learning all these systems appears daunting. However, taken individually, these systems will enhance one's ability to provide the most efficient, effective response to the needs of the public and public safety partners.

9-1-1

History of 9-1-1

Many people think the use of a three-digit emergency number was an American idea. The truth is the designation of a universal emergency number (9-9-9) was established in Great Britain in 1937. In 1957, the National Fire Chief's Association suggested than a universal emergency phone number be used in the United States. Ten years later in 1967, President Lyndon Johnson supported the concept of a universal emergency number. Prior to this, citizens needed to know the seven-digit number of their local police and/or fire departments. The Federal Communications Commission (FCC), together with the American Telephone and Telegraph Company (AT&T) determined 9-1-1 would be the number to use. At that time, rotary dial phones were the only phones available and 9-1-1 was fast to dial and easy to remember. Thus, 9-1-1 was born with the first call made on February 16, 1968 in Haleyville, Alabama.[21] (PBS)

In Minnesota, the first city-wide 9-1-1 systems were installed in Windom and St. James in 1968. In 1973, the first county-wide system was installed in Jackson County. Since then, Minnesota

[21] Public Broadcast System (PBS), "The History of 911: America's Emergency Service, Before and After Kitty Genovese." https://www.pbs.org/independentlens/blog/history-of-911-americas-emergency-service-before-and-after-kitty-genovese/. Accessed April 14, 2020.

has expanded its 9-1-1 services statewide, going from basic 9-1-1 to enhanced 9-1-1, and now transitioning to Next Generation 9-1-1 (NG9-1-1).[22] (DPS)

Basic, Enhanced, and Next Generation 9-1-1

Basic 9-1-1 is exactly as it states, a basic routing network for 9-1-1 calls. The call is sent to the PSAP determined by the local central office. While the voice is routed, the call does not contain caller information such as name, address, or other pertinent information.

Minn. Statutes Section 403.02, Subd. 13 defines enhanced 9-1-1 services:

> "Enhanced 9-1-1 service" means the use of automatic location identification or local location identification as part of the local 9-1-1 service provided by an enhanced 9-1-1 system consisting of a common 9-1-1 network and database and customer data and network components connecting to the common 9-1-1 network database.[23] (Minnesota Revisor)

Enhanced 9-1-1 (E9-1-1) allows for additional information to be sent along with the voice call. With landline calls, E9-1-1 provides the subscriber's name, address, and call-back number. It also provides information regarding EMS, fire and police response.

Next Generation 9-1-1 (NG9-1-1) is based on Internet Protocol (IP) technology. The State of Minnesota is in the process of transitioning the statewide 9-1-1 system to NG9-1-1. When completed, NG9-1-1 will support multimedia messaging, such as text, images, videos, and telematics, as well as voice calls. With NG9-1-1, additional information may be added by the PSAP, such as building plans, medical information, and other essential information.

NG9-1-1 will provide a secure emergency communications network which will support call transfers not only to neighboring PSAPs, but to those throughout the country. It will greatly enhance the ability of the PST to provide public safety field-responders with the additional information needed to coordinate incident response and management.[24] (MESB)

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ALI/ANI

Automatic Location Identification (ALI) automatically displays the caller's telephone number, the address or location of the telephone, and the emergency services information which services the displayed caller location. It is important to remember that locations may change during a phone call, especially from callers using cellular phones.

Verification of all information is required to ensure a proper dispatching of response units.

Automatic Number Identification (ANI) is the phone number from which the caller is placing the 9-1-1 call. This number may be the caller's phone number, a business main switchboard number, or a phone which cannot receive telephone calls. As with the ALI information, ANI

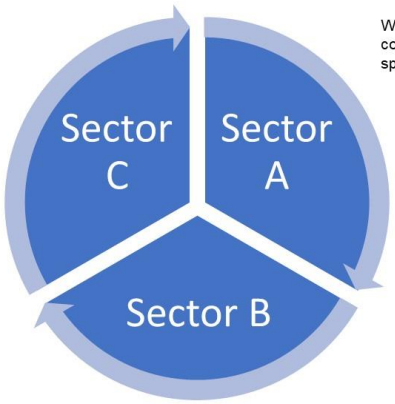
[22] Minnesota Department of Public Safety (DPS), "9-1-1 History." https://dps.mn.gov/divisions/ecn/programs/911/Pages/history.aspx. Accessed April 14, 2020.
[23] State of Minnesota, 2017 Minnesota Statues, Chapter 403, 911 Emergency and Public Safety Communications. www.revisor.mn.gov/statutes/cite/403.02. Accessed December 27, 2017.
[24] Metropolitan Emergency Services Board (MESB), "The Road to Next Generation 9-1-1." ~~www.mn-mesb.org/wp-content/uploads/6-what-9s-ng-911.pdf~~www.mn-mesb.org/wp-content/uploads/6-what-9s-ng-911.pdf. ~~Accessed December 27, 2017~~. As of June 9, 2023, this link is no longer accessible.

information must be verified. Ensure that the caller can receive a call back, if needed, by verifying the phone number of the caller.

Wireless Phase 1 and Wireless Phase 2

Wireless 9-1-1 calls route differently than those placed from landline phones; different location information is provided by wireless 9-1-1 calls than from landline phones. With wireless calls there is no consistent name and address associated with the call. The caller may be moving, or the call may be routed to the nearest available cell tower which may not be close to the caller's actual location. With wireless calls, there are two services which give an indication to the location of the caller.

Wireless phase 1 (WPH1) is the information related to the cell tower itself. The 9-1-1 screen will provide the call-back number and the identification of the cell tower itself. 9-1-1 calls are usually routed based on the cell sector which processed the call.



WPH1 cell phone tower coverage sectors. Not address specific.

A sector is a geographical area covered by a cell tower. Often the tower coverage is divided into two or three sectors; each sector has 9-1-1 routing determined by its coverage area. This means that the sectors may not be all routed to the same PSAP. For example, Sector A may predominately cover a city with its own PSAP; callers from Sector A would be routed to the city PSAP. Sector B may primarily cover a state highway or the interstate. This call would be routed to the Minnesota State Patrol. Sector C may cover a rural area which is patrolled by the County Sheriff. This would be routed to the County PSAP. WPH1 was designed to quickly route the caller to the PSAP most likely to handle the call. As with all calls, after verifying the caller's exact location, a call transfer may be needed.

Wireless phase 2 (WPH2) is much like WPH1, except with more features. In addition to receiving the call tower information, the PST will receive the location of the caller within a minimum of 125 meters (approximately 82 feet), 67% of the time, per FCC regulation. The caller location is displayed in latitude and longitude. If the PSAP has a mapping interface to the ALI,

the map will show the approximate location of the caller. Please note: if the caller is in a large facility with multiple stories, it will not show which floor within the building the caller is location. Along with the approximate caller location, the call-back number of the phone being used will also be provided.

PSTs can quickly ascertain if the caller is being routed by phase 1 or phase 2 by looking at the type of service found on the top of the ALI screen.

Additionally, for a WPH2 call, the ALI screen will show the location in latitude and longitude with a certainty factor mid-screen. Whether the call the PST receives is a WPH1 or ~~WS2~~WPH2, it is mandatory that the PST verify with the caller the location of the emergency. At the bottom of the ALI screen, one will see the words, "*Verify caller location and call-back number*." As a reminder, cellular callers may be mobile. The location mapped may not be the most current information on the caller's location. *Avoid a time delay by verifying all caller information*.

Wireless E9-1-1 Civic Address – WCVC
A wireless 9-1-1 civic address (WCVC) call provides the civic oriented data (address) in addition to traditional WPH2 geodetic data, the X, Y, and uncertainty data associated with the caller's location (where available). When this class of service is used, it indicates the civic oriented data are not expected to meet the criteria to be "dispatchable" by either building zone (wireless dispatchable location 1 (WDL1) or sub-address location (wireless dispatchable location 2 (WDL2). WCVC is the lowest level of performance and indicates the reported street address provided in the ALI screen is known, but no further information including a unit number is available, or, if a unit number is available, it does not meet the WDL1 requirement.

Wireless E9-1-1 Dispatchable Location 1 – WDL1
A wireless 9-1-1 call that provides civic oriented data (address and building zone, where appropriate, in addition to traditional WPH2 geodetic data, the X, Y, and uncertainty data associated with the caller's location (where available). When this class of service is used, it indicates the civic oriented data is expected to meet the medium quality level criteria to be dispatchable by building zone, but also indicates a less detailed location than WDL2.

Wireless E9-1-1 Dispatchable Location 2 – WDL2
A wireless 9-1-1 call that provides civic oriented data (address and sub-address location, where appropriate, in addition to traditional WPH2 geodetic data, X, Y, and uncertainty data associated with the caller's location (where available). When this class of service is used, it indicates the civic oriented data is expected to meet the highest quality level criteria to be dispatchable and indicates that the sub-address location within the building address is very close to the caller's location.

Additional classes of service information can be found on the MESB's website.

Examples of ALI screens may be found on the MESB's website. The ALI screens are not available on the public side of the website and require a username and password. PSTs should work with their supervisors to gain access to the website.

Advanced Location Technology
Technology is now available that offers advanced location-based information for emergency responders. The technology uses cloud-based emergency infrastructure that provides a digital data connection between the public and emergency services. These location-based companies partner with technology companies to make any device or application a lifeline. Information

supplied to emergency responders ~~dan~~ can include health data, telematics information, more accurate location data, and the list continues to expand. Advanced location-based technology can be integrated with PSAP systems to offer quicker and more efficient use of the data. An example of this type of technology is a cloud-based application called RapidSOS.

Another example of a third-party technology that can assist the PST is What Three Words. This can be especially helpful in situations where the caller is not near a structure that has an address, for instance on a park trail. The app is free to download and is able to ~~pin-point~~pinpoint a location down to 3 meters.

Telecommunications Device for the Deaf (TTY and TDD)

Photo of TDD

TTY stands for Text Telephone. This mode of communications enables a Deaf, deaf, hard of hearing, or speech or language impaired person to place telephone calls. A Telecommunications Device for the Deaf (TDD) is the actual technology used. In many PSAPs, the TDD is integrated into the 9-1-1 telephone.

The Americans with Disabilities Act (ADA) Title II covers equal and direct access to emergency telephone communications. This applies to PSAPs, law enforcement, fire, and EMS services. Title II, which is enforced by the Department of Justice, requires all PSTs to be trained semi-annually to ensure that calls received via a TDD are processed as efficiently and effectively as those received from the hearing public.

A TDD call should be treated in the same manner as a hearing call. It falls into the call pick-up standards, and confidentiality and call-taking protocols should be observed.

For direct calls between the PST and a Deaf or hard of hearing caller, a TDD is required at both ends of the conversation. The caller types her/his message while the PST reads the message. The PST must ask only one question at a time of the caller, as some TDDs do not have the capacity for a written transcript from which to read. The screen capacity is very short. The tones used to transmit the calls are either in Baudot or ASCII format. This allows only one person to type at a time. It is a slow method of communication.

TDD has some special protocols and etiquette which must be observed for effective communications. Depending on the caller, American Sign Language (ASL) may be the format of the conversation. With ASL, the structure of sentences is different than in spoke English. Time

is referred to first, followed by the main thought, then descriptive words. Verbs do not contain tenses (have, has, had, etc.) and there are no connecting words such as "and."

TDD protocol uses abbreviations such as:

Q or **QQ**	Used in place of a "?" at the end of a question
GA	"Go Ahead" is used to indicate the end of a thought. It indicates that a response can now be typed. Do not start typing if the caller has not completed her/his thought.
HD	"Hold" indicates to the caller that the PST is placing the caller on hold.
SKSK	"Stop Key" indicates the end of the conversation. No response is expected.
NBR	Number
BSY	Busy
HOSP	Hospital
HLP	Help
MED	Medical or medicine
ASAP	As soon as possible
U or **UR**	You, your, or you're
CD or **CLD**	Could
MSG	Message
R	Are
SHD	Should
TMW	Tomorrow

While these are common abbreviations, abbreviations should not be used unless the caller is using them.

[Insert agency telephone protocol for TDD calls and instructions on TDD usage]

Additional information on TTY/TDD standards may be found on APCO International's website.

Telecommunications Relay Service (TRS)[25] (FCC)

[25] Federal Communications Commission, "Speech to Speech Relay Servicer." www.fcc.gov/consumers/guides/speech-speech-relay-service. Accessed January 2, 2018.

Telephone Relay Service (TRS) is a telephone service that allows a person with hearing or speech disabilities to place and receive telephone calls. It is an FCC mandate that TRS be available in all 50 states, the District of Columbia, Puerto Rico, and all U.S. territories for both local and long-distance calls. There are no~~t~~ costs to the TRS user.

The phone number, 7-1-1, is the universal number for access to the relay service. All relay conversations are confidential. No records of any conversations are maintained by the relay service. This service is offered to Deaf and hard of hearing individuals, as well as those in need of voice-over or hearing-over services.

If a caller needs to use American Sign Language, the relay service can view and translate the message sent through visual calls such as Face~~-~~Time or other visual means. The relay interpreter then voice calls the PSAP. It is important to remember that the interpreter does not clarify or enhance the communications. The interpreter is simply the conduit between the caller and the PST. As with the TDD, it is important to wait for the caller to complete his/her portion of the call prior to asking questions or seeking clarification. Only one person at a time may ~~"talk."~~communicate.

Photo used courtesy Sorenson Communications

Visit the Minnesota Relay Service website for additional information.

Selective, Default, and Alternate Routing

The MESB maintains standards for the 9-1-1 network. It is important to have a basic understanding of the technology that determines how a call is routed to a PSAP. Routing is the means of delivering a 9-1-1 call to the correct PSAP based on location. There are three routing mechanisms: selective, default, and alternate routing.

Selective Routing

Each county has a specific 9-1-1 routing plan. 9-1-1 calls are automatically routed, as specified by the county, to the PSAP that provides dispatching services for the public safety agencies serving the area from which the 9-1-1- call is placed. To ensure that calls are not impacted by equipment malfunctions, redundant routing equipment ~~ins~~ is in place so that if one router malfunctions, the other switching device will continue to route all calls that originate in the 9-1-1 system.

Default Routing

The system is designed so that if the normal means of routing a call malfunctions, a default routing plan, as adopted by the county, will be used to route the call to an alternate location.

This means that the call will be sent to a specified location in the event of a major malfunction in the routing network.

Alternate Routing
On rare occasions, system failures may occur. Failures can be caused by local PSAP equipment failures, telephone line failures, or other catastrophic events. If the PSAP is unable to receive 9-1-1 calls, per the county plan, 9-1-1 calls will be routed to another PSAP or the agency's back-up location. Alternate routing is authorized by the initiating PSAP. The telephone service provider shall have the alternate PSAP information on file to complete the transfer of calls.

Additional information on 9-1-1 networks service standards can be found on the MESB's website.

Call Transfers
PSAPs are equipped with one button transfer capability or a 3-digit star code to transfer calls between PSAPs. The PSAP initiating the transfer shall announce to the receiving PSAP that there is a call being transferred. The PSAP receiving the transfer will receive the correct ANI and ALI. The first call-taker will be able to remain connected as a third party to the call. When they go offline, the caller will remain connected to the transfer location.

Text-to-9-1-1
The SECB developed and approved a standard and protocol for handling text-to-9-1-1 calls:

> The purpose of this operational standard is to standardize the method of receiving and processing Short Message Service (SMS) text-to-9-1-1 calls throughout the State of Minnesota. Use of this operational standard will promote the standardization of text-to-9-1-1 call handling among jurisdictions across the state. The purpose of text-to-9-1-1 is to provide a means of communication between the caller and the Public Safety Answering Point (PSAP) when it is not feasible for callers to make a traditional voice call.[26] (SECB)

Real-Time Text (RTT) is a setting the cell phone users can select on their devices. RTTs may come in as TTY calls. RTT allows the call-taker to see an incoming text letter by letter, as the message is being typed. Most RTT calls will appear as a silent 9-1-1 call and answering applications may not automatically detect the message as an incoming TTY call. If a silent call is received, part of the answering protocol should include a query with the TTY. RTT will eventually be delivered the same way as a voice call, which will allow the call-taker to hear background noise.

To comply with this standard, the PST must review the standard in its entirety to understand the capabilities, constraints, call processing considerations, and protocols.

The MESB also developed and approved a standard and protocols for handling text-to-9-1-1 calls in the metro region. The PST must comply with both the SECB and MESB standards.

Telematics

[26] SECB, Minnesota 9-1-1 Standard 1.3.0, "Text-to-9-1-1 Statewide Operational Standard." https://dps.mn.gov/divisions/ecn/programs/911/Documents/NG911/text-to-911-state-standard.pdf. Accessed April 14, 2020.

Telematics is a computerized system of monitoring driver and vehicle performance. It is often referred to as the “black box” of the automobile.

On-Star and Ford’s RESCU are just two of the brand names for telematics. While the PST most often interacts with telematics as a result of an accident or vehicle theft, telematics has four parts:

1. Concierge services provide the vehicle owner such services as remote vehicle unlock and road or weather updates.
2. Global Positioning is beneficial in locating one’s vehicle in the event of an accident, in locating a stolen vehicle, or locating a vehicle suspected in ~~a~~ criminal activity.
3. Cellular phone interface which allows for hands-free calling.
4. Data collection is important in the event of an accident. Data on point of impact, speed, break engagement, and number of potential victims based on seatbelt activation may indicate the type of public safety response needed. This is the first step in the chain of survival.

In the event of an accident, telematics may notify either a central call center or a PSAP directly. The telematics will provide the latitude and longitude of the vehicle and open a cellular call with the driver. The central call center will notify the appropriate PSAP with the accident information. In some situations, the call center can transfer the driver directly to the PSAP.

APCO Standard 1.114.1-2017 outlines the best practices for both the telematics call centers and the PST.

Logging Recorders

The excited uttering of a caller to a PST during a 9-1-1 call is important evidence in many criminal cases. As such, audio loggers capture this evidence. The conversations between the PST and the victim or caller ~~is~~ are recorded and retained for a minimum of 31 days. PST personnel are often subpoenaed to court to testify to the information found on the ~~taped~~ recorded conversation.

Each PSAP has a logging recorder. The technology is available for various types of loggers. The most widely used is an audio logger. Loggers record all 9-1-1 calls coming into the center. Some centers have enhanced loggers with also capture the keystrokes typed in the CAD system by the PST. Logs must be kept a minimum of 31 days, per the Minnesota Historical Society which mandates records retention. Agencies can choose to increase the retention period by contacting the Historical Society to document the preferred retention period.

All 9-1-1 calls are considered private data with a few exceptions. This means that a copy of the voice recording is not public; the written call transcript is public. There are exceptions to this rule, such as releasing the recording with written permission of the caller or as evidence in criminal or some civil cases. Rules covering 9-1-1 calls are found in Minn. Statutes Section 13.82, Subd. 4.

> Subd. 4. Audio recording of 911 call.
> The audio recording of a call placed to a 911 system for the purpose of requesting service from a law enforcement, fire, or medical agency is private data on individuals with respect to the individual making the call, except that a written transcript of the audio recording is public, unless it reveals the identity of an individual otherwise protected under subdivision 17. A transcript shall be prepared upon request. The person requesting the transcript shall pay the actual cost of transcribing the call, in addition to any other applicable costs provided under section 13.03, subdivision 3. The audio recording may be disseminated to law enforcement agencies for investigative purposes. The audio recording may be used for public safety and emergency medical services training purposes.[27] (Minnesota Revisor)

Computer Aided Dispatch

Computer Aided Dispatch (CAD) software is one of the primary technologies used in public safety communications. While it is an aid to the PST, it does not replace basic knowledge of emergency communications. CAD systems are used to document call information, such as:

- Location of the incident
- Caller name and address
- Call classification
- Call details
- Other agency-specific information

When interfaced with MDCs, Automatic Vehicle Location (AVL) and mapping, the PST can view in real time, responding unit status, unit location, and location of the incident via automatic mapping. Many CAD systems are programmed to make unit recommendations, give location history and warning information. The CAD system will automatically time stamp each interaction the PST or responding units ~~has~~ have with the CAD system. These records become part of the initial case report.

In addition, some agencies use CAD information for statistical reporting. The information found in CAD can determine average response time, number of calls based on time of day and day of week for scheduling of both responders and PST personnel.

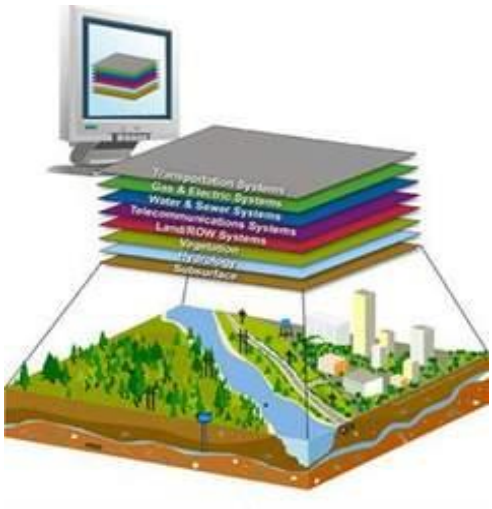
[27] State of Minnesota, 2017 Statutes, Chapter 13, Government Data Practices. www.revisor.mn.gov/statutes/2007/cite/13.82. Accessed January 5, 2018.

Mobile Data Computers (MDC)

The MDC is the companion piece to the CAD system. The MDC is used in response vehicles where the responders can view call information and perform other duties as outlined by agency protocols.

Automatic Vehicle Location (AVL)
Automatic vehicle location (AVL) combined with GIS mapping interface provides the PST with visual indicators of responding units' locations and direction of travel. In addition, some AVL will provide administrators with travel rate and other unit information.

Geographic Information Systems (GIS)



Geographic information systems (GIS) is computer software that maps both visible (roads) and invisible (population density) characteristics of a place and allows users to interact with the information. It does so by displaying both the location of an object, such as a cell tower, and information about that object, such as the tower's owner.

What kinds of information can GIS map? Anything with a location attached. By bringing together information that was previously stored in separate, often incompatible, forms, GIS helps create a more complete understanding of the agency's service area which, in turn, assists the PST in making more informed decisions.

In NG9-1-1, 9-1-1 data will primarily be GIS-based data. For additional information on 9-1-1 location data, visit the MESB's website.

Mass Community Notification
There are two components to mass community notification. The first is the federal Emergency Alert System. The Integrated Public Alert and Warning System (IPAWS) is a FEMA-sponsored program which allows federal, state, and local public safety entities to send emergency messages via multiple mediums. In Minnesota, local agencies work with Emergency Communication Networks (ECN) to activate messages. While the PST has limited contact with this community notification technology, it is important to have a basic understanding of the system. Detailed information on IPAWS can be found on FEMA's website as well as on ECN's website.

Locally, agencies contract with specialized data providers for mass community notifications. Local PSAPs may use a computerized auto-dialer to deliver a pre-recorded message for such emergency situations as chemical spills, endangered missing person reports, or other critical situations. While these systems are designed for landline phones, most systems have an auto-registration feature that allows cell phone users the ability to register their cell phone and address to be included in the notification system.

[Insert agency-specific information on community notification systems.]

Criminal Justice Information System (CJIS)
The Criminal Justice Information System (CJIS) is a division of the FBI which makes criminal justice information available nation-wide. CJIS houses the National Crime Information Center (NCIC) which provides information on stolen and recovered property and missing persons. CJIS is also the repository for designated criminal history information. Specialized training and background checks are needed to access this system. PSTs are often certified through the Minnesota Bureau of Criminal Apprehension (BCA) for access into these systems. After the initial training, the PST must recertify every two years.

NLETS
According to the NLETS website:

> NLETS is a private not for profit corporation owned by the States that was created more than 50 years ago by the 50 state law enforcement agencies. The user population is made up of all the United States and its territories, all federal agencies with a justice component, selected international agencies, and a variety of strategic partners that serve the law enforcement community-cooperatively exchanging data.
>
> The types of data being exchanged varies from motor vehicle and drivers' data, to Canadian and Interpol databases located in Lyon, France, to state criminal history records, and drivers' license and corrections images. Operations consist of more than 1.6 billion transactions a year to over 1 million PC, mobile and handheld devices in the U.S. and Canada, with over 45,000 user agencies and 1.3 million individual users.[28] (NLETS)

MNJIS
According to the BCA's website:

> The BCA's Minnesota Justice Information Services, or MNJIS, facilitates the access to and exchange of information between sources of criminal justice data. MNJIS also provides technology, training and services for Minnesota criminal justice agencies, better enabling their use of criminal justice information to solve crimes, prosecute offenders and protect Minnesotans and all who visit our state. MNJIS works under the direction of the Criminal and Juvenile Justice Information Advisory Group.[29] (BCA)

[28] NLETS, "What We Do." www.nlets.org/about/what-we-do. Accessed January 6, 2018.
[29] Bureau of Criminal Apprehension, "Minnesota Justice Information Services." https://dps.mn.gov/divisions/bca/bca-divisions/mnjis/Pages/default.aspx. Accessed April 14, 2020.

All public safety employees who are required to have access to MNJIS/NCIC must be trained within six months of hire and re-certify every two years. Information contained in MNJIS and NCIC, including information found within a driver's license, is for criminal justice purposes only.

[Insert agency technology information]

Section Review

1. Describe the differences between basic 9-1-1, enhanced 9-1-1, and NG9-1-1.

2. When creating a call for service, what piece of information MUST be verified with the caller?

3. Deaf and hard of hearing individuals may use a different language than standard English to communicated. What is it? How may it be different?

4. What part/parts of an audio log of a 9-1-1 call are public?

5. Community notification takes two forms. What are they?

6. What are the two pieces of information needed in a CAD call prior to dispatching responders?

7. How are MNJIS and CJIS related? How do they differ?

Chapter 6: Emergency Management

Scope:
Emergency management is often associated with Federal Emergency Management Agency (FEMA). This section will introduce the PST's role in emergency management. The PST will be required to successfully complete the required ICS online classes prior to completing this section.

Learning Objectives:

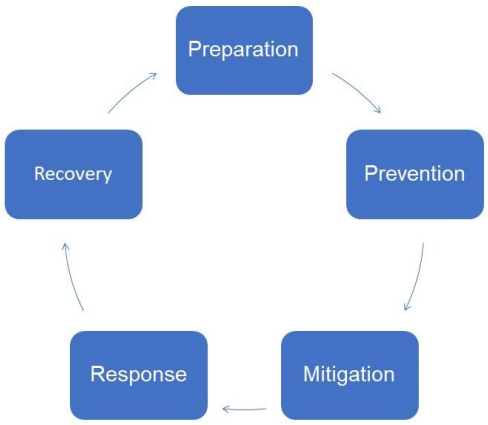
1. To become acquainted with emergency management components.
2. To learn the role the PST plays in emergency management.
3. To successfully complete the following ICS online classes:
    a. IS 100C – Introduction to the Incident Command System
    b. IS 144 – Telecommunicators Emergency Response Taskforce – Basic Course
    ~~b.~~c. IS 200C – Basic Incident Command System for Initial Response
    ~~c.~~d. IS 700B – An Introduction to the National Incident Management System
    ~~d.~~e. IS 800C – An Introduction to the National Response Framework
    ~~e.a. IS 144 – Telecommunicators Emergency Response Taskforce – Basic Course~~
4. To become knowledgeable about the Metro Minimum Training Standards for TERT.
5. To become acquainted with the local emergency operations plan.

Commented [AR19]: Changed to numerical order

Emergency Management – Three-Fold

Many people associate emergency management with hurricanes, tornadoes, and other natural disasters; however, the topic of emergency management is more than simply response. For the PST, emergency management has three parts. The first is the overall view of emergency management; the second is the role the PST plays in emergency response; and third, how does the communication center prepare for its own emergency situations.

Emergency Management Overview
Today's headlines report on FEMA responding to the most recent natural disaster. The American Red Cross, The Salvation Army, and other private agencies report assisting with food and shelter. Everyone hears about response. But there is more to emergency management. Emergency management is cyclical; it is composed of five separate but interlocking phases.



The Emergency Management Cycle

Preparation
The U.S. Department of Homeland Security, FEMA defines preparedness as "a continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and taking corrective action to ensure effective coordination during incident response." This cycle is one element of a ~~boarder~~ broader National Preparedness System to prevent, respond to, and recover from natural disasters, acts of terrorism and other disasters.[30]

Prevention
Prevention involves identifying potential threats. Locally, threats may include weather-related situations, chemical spills, terrorism, and other hazards. Each potential threat is evaluated for its impact on the community. Plans are devised to mitigate the threat. Response plans are developed. Resources are identified. Responder training is conducted to ensure all involved are aware of their areas of responsibility. This is also a time to identify potential issues with the response plan.

Mitigation
The goal of mitigation is to reduce the risk to life and property. This can be accomplished through regulations, local ordinances, education, and training. This is a proactive measure to prevent or minimize risks. Emergency managers work with local agencies, businesses, and people to identify ways to reduce or eliminate potential threats.

One simple example of mitigation is having an emergency kit in a vehicle. Having food, blankets, flares, etc. in a vehicle may mitigate the risk of bodily harm if a person is snowbound in their vehicle. On a large scale, airports have the means of checking luggage for potential hazards to the flying public. Mitigation is to reduce risk when and wherever possible.

[30] Federal Emergency Management Agency, "Plan and Prepare for Disasters." https://www.dhs.gov/plan-and-prepare-disasters. Accessed April 16, 2020.

Response
Response takes many forms. Initially, the PST will send the appropriate local response to any emergency. During the response phase of emergency management, directions may be given to the public such as evacuation or shelter in place instructions.

In small incidents, the local agency will have command and control of the situation. As the incident expands, additional resources may be needed including local mutual aid, state, and federal assistance or that of community resources. This is when the incident command structure expands and becomes more formal. Effective planning and training allow for an efficient and effective response.

Recovery
In large scale events, recovery may take weeks, months, or years. Recovery focuses on how to restore, redevelop, and revitalize the health and welfare of the community. It focuses on building a more resilient community. Recovery is bringing life back to normal.

The emergency management cycle can also be shown with only four phases with preparation and prevention combined into one step. As is emphasized in the ICS lessons, emergency management will be sized to meet the needs of the incident.

FEMA strongly encourages all PSTs to complete the following emergency management incident command classes. Be sure to follow the instructions to register for the classes. Upon completion of each class, certificates of completion should be printed and given to the appropriate CTO. PSTs should keep a copy of the certificates for their records.

1. IS 100C – Introduction to the Incident Command System
2. IS 144 – Telecommunicators Emergency Response Taskforce – Basic Course
~~2.~~3. IS 200C – Basic Incident Command System for Initial Response
~~3.~~4. IS 700B – An Introduction to the National Incident Management System
~~4.~~5. IS 800C – An Introduction to the National Response Framework
~~5.1. IS 144 – Telecommunicators Emergency Response Taskforce – Basic Course~~

Commented [AR20]: Ordered numerically

All classes can be found on FEMA's Emergency Management Institute's website.

The PST's Role
The PST's role in emergency management is to provide clear communications for all responders. Plain language is required. Any use of ten-codes or agency-specific language must be avoided. The PST must be aware ~~than~~ that in a mutual aid situation or a multi-jurisdictional event, clear, concise communications will assist in assigning the correct resources to the correct need.

Communications is often listed as the weakest point in emergency management. This is not necessarily due to the actions of the PST. However, the PST must be aware of all required policies and procedures regarding the ARMER radio system. As a~~n~~ PST, one is often required to assign radio talkgroups, patch talkgroups together, and redirect responders to the correct resources. To ensure all state ARMER users are aware of the assigned talkgroups, the COML,

or her/his designee, must complete an ICS 205 form, which is an Incident Communications Plan, for each operational period.[31] (MESB)

In addition to the radio usage, the PST is a very valuable part of the initial response. The PST has responsibility for determining response priorities during the first few minutes or hours of an event. These are the tasks for which the PST has daily responsibility. However, as an incident develops, the information that is gathered in the call-taking and dispatching of each response becomes part of the official documentation for the event. The calls for service document the type and scope of the incident, resources used, personnel assigned, and other valuable details. If the State of Minnesota's Homeland Security Emergency Management Division (HSEM) or FEMA becomes involved, this documentation becomes invaluable in determining the level of assistance needed and/or available to responders and the public. These documents become part of the emergency management case file. Accurate record-keeping is important for resource allocation and reimbursement.

Telecommunicators Emergency Response Taskforce (TERT)
APCO defines a TERT team as, "A group of trained telecommunications operations and support personnel able to respond to and work with another agency to receive, process, dispatch, and monitor calls for ~~assistant~~assistance."[32] (APCO)

As mentioned in Chapter 4 – Radio Communications, the metro region has a Communications Response Task Force (CRTF). The CRTF is an ICS-trained all-hazards personnel resource that may be used by an agency to assist in the PSAP, EOC, command post, or in the field.

This special team is comprised of COMLs, COMTs, and an Incident Dispatch Team (IDT). COMLS are responsible for developing the plans for effective use of communications resources, equipment and facilities. COMLs supervise the rest of the communications unit, including COMTs and incident dispatchers.

COMTs are trained technical personnel with special knowledge in the areas of local communication systems, frequencies, spectrum, technology and other radio technologies. They are specifically assigned to provide technical support to the COML, the communications unit, the incident dispatch team, and field ~~-~~responders.

The IDT is comprised of PSTs from metro area PSAPs. They represent multi-discipline PSAP personnel who are ready to deploy to augment incident management at an incident or event. By agreement with HSEM, the metro region's IDT serves as Minnesota's Telecommunicators Emergency Response Taskforce (TERT) under the National Joint TERT Initiative (NJTI). TERT is a ~~state to state~~state-to-state PSAP mutual aid personnel resource that operates under the Emergency Management Assistance Compact (EMAC). MN-TERT is recognized nationally.[33] (MESB)

[31] MESB, "Metro Region Communications Response Task Force." https://mn-mesb.org/crtf/. Accessed April 16, 2020.
[32] APCO/NENA, "Standard for Telecommunicator Emergency Response Taskforce (TERT) Deployment." https://cdn.ymaws.com/www.nena.org/resource/resmgr/Standards/APCO-NENA_ANS_1_105_2-2015_T.pdf. Accessed April 16, 2020.
[33] MESB, "Minnesota Metro Region Communications Response Task Force Informational Brochure. http://www.mn-mesb.org/wp-content/uploads/Metro-Region-CRTF-Brocure-AC.pdf. Accessed April 16, 2020.

Further information on the TERT initiative may be found on the following websites:

- National Joint TERT Initiative
- Emergency Management Assistance Compact
- ~~Incident Dispatcher Resource Center~~
- Minnesota HSEM
- SAFECOM
- FEMA
- APCO
- NENA

PST and the PSAP

The PST must also be aware of the emergency operations plan for the PSAP itself. In emergency management, the rule of three deep applies not only to personnel, but also to plans and procedures for continuity of operations. Within the PSAP, there are emergency plans in place for everything from a failure in the phone system or radio system to building evacuation. It is important for each PST to understand the emergency plans for one's own PSAP.

The continuity of operations plan (COOP) for *[insert agency name]* is:

[Insert agency COOP or additional agency-specific information]

Commented [AR21]: Unable to access, not sure where to find desired site

Commented [j22R21]: Recommend deletion of that line.

Section Review

1. What are the five major areas of emergency preparedness?

2. How important is understanding the role of emergency management in the communications center?

3. The PST is required to successfully complete several FEMA classes. What is the most important element learned in each class?

4. How does completing the ICS classes improve understanding of emergency management?

5. Discuss with your trainer agency-specific language which may impact communications in a mutual aid event.

6. If asked to get a fire resource called a tanker, are you going to dispatch a

    a. Truck filled with water?
    b. Fire engine that holds water?
    c. Plane capable of dropping water?

Chapter 7: Call Processing

Scope
The scope of this chapter is to learn the basics of call processing for routine calls, emergency calls, and low frequency/high risk calls. NENA, APCO, FBI, and FEMA recommendations will be introduced to the PST to provide a global view of potential calls which the PST may encounter.

Learning Objectives

1. To understand the importance of the NENA call answering standard.
2. To understand the impact of terminology used in conversations with the public.
3. To learn the basic interrogation questions to enable the correct public safety response.
4. To be introduced to outside resources for specialty calls, such as missing children and AMBER alerts.
5. To learn the global scope of such calls as hazardous materials, terrorism, and other low frequency/high risk calls.

Call Taking Standards[34] (NENA)

~~NENA Standard 56-005~~ NENA 9-1-1 Call Processing Standard ~~56-005~~(NENA-STA-020.1-2020) states that 90% of 9-1-1 calls shall be answered within ten seconds with 95% of calls answered within 20 seconds. Calls are to be answered in the order of 9-1-1 calls first, followed by the ten-digit phone lines with the ten-digit administrative phone lines to be answered last. It is important for the PST to remember that in emergency situations for the caller, time appears to pass slowly. While ten seconds is a short period, the caller also experiences silence during the call processing time or experience an automatic ring back that the PST does not hear. This adds to the high emotions of many callers.

The standard further recommends that all 9-1-1 calls be answered with "9-1-1." There may be more verbiage after the 9-1-1, such as "What is your emergency?" "What is the location of your emergency?" or other agency-specific language. For non-emergency calls, the PST's agency will determine the call answering standard.

Non-Standard 9-1-1 Calls
There are several types of 9-1-1 calls which do not result in standard emergency call processing.

Abandoned Calls/Disconnects
The PST shall attempt to place a return call to determine if assistance is needed. If the call goes unanswered, the phone is busy or is directed to voicemail, the PST's agency standard operating procedures will dictate whether further action is needed.

Silent Calls
~~Public Law 101-336~~ Public Law 101-336 covers persons with disabilities. This law requires that the PSAP be equally accessible to Deaf and hard of hearing persons as it is to others. As such, when the PST receives a silent call, the PST must activate the TDD to ensure that the line is truly silent. TDD callers may be waiting for a call answering message via TDD to begin

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[34] NENA, "NENA Call Answering Standard/Model Recommendation." https://cdn.ymaws.com/www.nena.org/resource/resmgr/standards/NENA_56-005.1_Call_Answering.pdf. Accessed April 16, 2020.

conversation with the PST. A silent call is not silent until after the TDD is engaged and no message is relayed. If no communication occurs, then the call should be processed under the PST's agency protocol.

Misdials
A 9-1-1 misdial is when a caller stays on the line and admits that they did not intend to dial 9-1-1. Some common misdials include receiving calls for 4-1-1 (information) or calls from multi-line phone systems where the caller has to dial "9" to receive an outside line, followed by "1" for long distance. Others may include "pocket dialing" when a cell phone dials 9-1-1 if an emergency button is accidentally engaged.

Prank Calls
If the PST believes or has reason to believe that a call is a prank call, the call should be processed as an emergency call, unless a responder is on scene or there is other verification that the call is a prank. The PST should err on the side of caution and treat the call as if it were a real 9-1-1 call.

Unintentional 9-1-1 Calls
A call is considered unintentional when the PST can hear normal background sounds, such as normal conversation, television, or radio. PSTs should rule out that these are not calls from Deaf or hard of hearing persons using the TDD.

Call Processing

The PST is much like a journalist. With the journalist, they are taught the questions of who, what, where, when, and how. For the PST, all case entries have the same essential elements.

1. **Where?** The first element of the location of the emergency. This is often determined by asking, "What is the location/address of the emergency?" Please note that if the PST asks, "What is your address?" the answer may not be where the help is needed, but where the caller lives. Verify the location by asking it twice or by electronic means (or according to agency policy). The location and call type will determine who needs to respond. This is akin to the real estate adage, "LOCATION, LOCATION, LOCATION!"
2. **Call-back number.** By obtaining the call-back number, the PST can reconnect with the caller if the call is disconnected. This is also helpful if there is a need to trace a phone's location and/or subscriber's information.
3. **What is the emergency?** Is this call police, fire or EMS-related? Gathering detailed information on the situation begins to paint a picture for the ~~first~~ field-responders. The PST needs to quickly and concisely describe the emergency so that public safety field-responders can begin to formulate a safe response to the emerging situation. Any hazards, such as weapons or drugs, must be documented.
4. **When?** Is this an in-progress call? Did it happen two hours, two days, or two months ago? In-progress calls take a higher priority than time-delayed calls. High priority calls are those in which the speed of the response may highly impact the outcome of the call.
5. **Who?** If possible, gather the caller's name and location, along with any witness situation. While this information is sometimes difficult to gather, it may affect the outcome of the call.

Structured Call-Taking Protocols
Many PSAPs purchase and implement structured call-taking protocols. NENA 9-1-1 Call Processing Standard (NENA-STA-020.1-2020)~~NENA Standard 56-006~~ outlines the rationale for a structured call-taking protocol program. Structured call-taking protocols provide a uniform,

Commented [j25]: Replaced reference as NENA-STA-020.1-2020 combined NENA 56-001, 56-005, 56-006, and 56-501.

consistent means of handling emergency calls. These improve the efficiency of daily call-taking and give guidance to events of low frequency and high impact. Together with the quality assurance piece, the structured call-taking protocol provides the PSAP and PST with a high level of consistent service across the entire center. An established protocol does not mean that sequencing must be followed every time, as a caller may provide critical information in a different order.

PSTs should follow question sequencing order per their agency's policy. Many PSAPs have chosen to integrate their standardized protocol system and CAD to provide an interactive solution with real time efficiencies for the PST.

Structured call protocols process calls in accordance with acceptable levels of care. They prioritize calls and responses based on the severity of the call rather than the call type. The protocols process calls in a manner consistent with the preservation and protection of victims and responders alike. They can support pre-planning of large-scale events. The protocols can also be used in quality assurance review to enhance the training needs of the PST.

Structured call processing protocols ask the same questions in the same manner during the case entry, or start, of a call. Location, phone number, type of emergency will lead the PST to choose the closest call type. It then directs the PST to ask call type-specific questions. Based on the responses, the algorithm will determine the severity of the call and responder level. For large-scale events, it will assist the PST in call interrogation, which assists with gathering vital details.

With some structured call-taking protocol systems, the PST is required to pass an approved skills and knowledge certification training and exam. The PST must be recertified within a specific time frame, normally every two years. This ensures compliance with all policies, procedures, and instructions that are housed within the program.

[Insert agency-specific structured call protocols, if applicable]

Section Review

1. What is the NENA telephone answering standard? Why are these standards important?
2. If the PST receives a “silent” 9-1-1 call, what actions must the PST take prior to disconnecting the call?
3. What are the two pieces of information needed to dispatch the correct public safety responders?
4. What piece of information must always be verified?
5. What purpose to structured call protocols serve?

Missing, Abducted, Exploited, and Trafficked Persons

The National Center for Missing and Exploited Children (NCMEC) has assisted locating over 200,000 missing children since the center's inception. APCO and NENA, together with NCMEC, have developed ~~APCO Standard 1.101.3-2015~~ APCO Standard 1.101.3-2015[35] (APCO/NENA). This standard defines missing, abducted, exploited, and trafficked persons. It also gives detailed call protocol for each call type.

There are two different types of abduction. The first is non-family abduction. This is defined as the unauthorized taking, luring, confining, or concealing of a child younger than 18 years of age by someone other than a family member. In Minnesota, one of the most well-known non-family abductions was that of Jacob Wetterling. Jacob was 11 years old when he was abducted at gun point while riding his bike with his brother and a friend. He remained missing for nearly 27 years. His body was discovered in 2016 after his abductor confessed to the abduction and led authorities to Jacob's body.

The second type of abduction is family abduction. This is where the abductor has a family relationship with the child. With this type of abduction, the custody rights, including visitation rights of another parent or legal guardian, are violated.

In addition, there are two types of runaway children. Endangered runaways are children under 18 who are missing of their own accord. The PST may encounter these types of missing persons reports more often than any other. Runaway children are also called thrown-away children. These children don't have anyone looking for them after they leave home. In some instances, they have been asked to leave home or are not allowed to return home. While these children are often not reported as missing, they often encounter law enforcement.

Lost, injured, or otherwise missing children are those for whom there is insufficient information to determine why the child is missing. If a child under the age of ten is missing, even of their own accord, they are considered at risk and vulnerable to exploitation.

Exploited and trafficked persons classifications are all covered under federal statutes. The violations include:

- Possession, manufacture, and distribution of child pornography
- Online enticement of children for sexual acts
- Child sex trafficking
- Sex tourism involving children
- Child sexual molestation (not in family)
- Unsolicited obscene material sent to a child
- Misleading domain name – deceives child into viewing harmful materials
- Misleading words or digital images on the Internet
- Extrafamilial sexual exploitation

As with any call to 9-1-1, the PST must follow the standard call intake procedures. Questions include, but are not limited to, location of the emergency, nature of the emergency, caller name,

[35] APCO/NENA, "ANS 1.101.3-2015, Standard for Public Safety Telecommunicators When Responding to Calls of Missing, Abducted, and Sexually Exploited Children." https://www.apcointl.org/download/standard-for-public-safety-telecommunicators-responding-to-calls-of-missing-abducted-and-sexually-exploited-children/?wpdmdl=6514&ind=1539978010062. Accessed April 16, 2020.

call-back number, name, and description of the missing person with an approximate time of the last known contact with the victim. The PST is required to immediately enter the missing child into NCIC.

The NCMEC provides free online training for PSTs. The course is titled "Telecommunications Best Practices for Missing and Abducted Children." This course is approximately five hours long and may be divided into several sessions. ~~Topics include~~ If this course is completed, PSTs will be able to:

- Respond more effectively to endangered missing and abducted child incidents
- Apply best practices and model policy components to improve [a] center and/or agency's readiness for an effective response to reports of missing and abducted children
- Maintain missing person record information and improve procedures for record management and case data over the life of the case
- Prepare for quick contact with/use of various operational and enforcement response resources through state AMBER Alert Programs and the NCMEC

Registration for the course is at the bottom of the webpage. This training is offered through Fox Valley Technical College's Blackboard Online Learning System[36] (NCMEC).

[Insert agency-specific information, if applicable]

When handling calls ~~that involve~~involving the report of a missing person, PSTs should be aware of Brandon's Law, which ~~was~~ passed in 2009. The law requires law enforcement to accept missing person reports without delay and provide that a law enforcement agency shall conduct a preliminary investigation to determine if a person is missing or endangered.

Insert agency-specific information, if applicable]

[36] National Center for Missing and Exploited Children (NCMEC), "Telecommunications Best Practices for Missing and Abducted Children." https://ncjtc.fvtc.edu/training/details/TR00005437/telecommunications-best-practices-for-missing-and-abducted-children-1. Accessed April 16, 2020.

Section Review

1. Describe the two types of abductions.
2. Describe the two types of runaways.
3. Under what age is a child considered vulnerable to exploitation, even ~~is~~ if missing of their own accord?
4. In addition to the location and type of call, what information is needed to assist officers with this type of call?
5. What resources are available through the National Center for Missing and Exploited Children (NCMEC)?

AMBER Alert

The AMBER Alert system ~~bean~~ began in 1996 when a Dallas-Fort Worth broadcaster joined with local law enforcement to develop an early warning system to assist in locating abducted children. AMBER ~~standards~~ stands for America's Missing: Broadcast Emergency Response. AMBER~~T~~ Alerts were named after Amber Hagerman, who was abducted while riding her bike in Arlington, Texas; she was later found brutally murdered. The AMBER Alert system is used in all 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands. Canada, Mexico, and several European countries also have versions of the AMBER Alert system.

On April 30, 2003, Public Law 108-21 was passed by the 108th Congress. This statute was enacted to "prevent child abduction and the sexual exploitation of children and for other purposes."[37] (AMBER) This legislation ensured that the federal government would support the AMBER Alert system through development of a national coordination network, issuing minimum standards for issuance and dissemination of alerts through the AMBER Alert communications network and provided grants so that all states could develop and support the AMBER Alert system.

In Minnesota, the BCA activates AMBER Alerts when two criteria are met:

1. The AMBER Plan should be activated when a child, 17 years of age or younger, is abducted and there is reason to believe the victim is in imminent danger of serious bodily injury or death.
   AND
2. There is information available to disseminate to the public which could assist with the safe recovery of the victim and/or apprehension of the suspect.[38] (DPS)

How to Activate an AMBER Alert

When a law enforcement agency decides to request activation of the AMBER Alert system, the law enforcement agency must contact the BCA. The BCA reviews the circumstances of the case and available information. Upon confirming that the AMBER Alert requirements have been met, the BCA activates the Minnesota Crime Alert Network (MCAN) and the State Emergency Alert System (EAS).

Once activated, the EAS system and MCAN immediately deliver the AMBER Alert to all participating radio and television stations in Minnesota. Once both messages are received, participating stations then announce the information every 15 minutes for the first two hours, then every 30 minutes for the next three hours. During this time the BCA also works with the NCMEC to activate a Wireless Emergency Alert (WEA) via cell phones statewide.

If the victim is located, or if the AMBER Alert should be cancelled for any reason, the law enforcement agency should contact the BCA immediately. After receiving this information, and with the approval of the Superintendent, Assistant Superintendent or designee, the BCA Operations Center will issue a Minnesota Crime Alert advising that the AMBER Alert is

[37] U.S. Department of Justice, Office of Justice Programs, "Amber Alert." https://amberalert.ojp.gov/sites/g/files/xyckuh201/files/media/document/protect_act.pdf. Accessed April 16, 2020.

[38] Minnesota Department of Public Safety, Bureau of Criminal Apprehension, "AMBER Alert Requirements." https://dps.mn.gov/divisions/bca/bca-divisions/administrative/Pages/amber-alert-requirements.aspx. Accessed April 16, 2020.

cancelled.

Section Review

1. After whom was the AMBER Alert named?
2. What are the two pieces of information that are needed to issue an AMBER Alert?
3. In Minnesota, how does one activate the AMBER Alert system?
4. Can an AMBER Alert be activated in just one city or county? Explain.

Railway, Aircraft, and Marine Emergencies

Railway Emergencies

The best practices guide for 9-1-1 calls involving trains is NENA Standard 013.2-2016, NENA Public Safety Communications and Railroad Interaction Standard Operating Procedures. This standard gives direction to both railroad personnel and the PST regarding information needed to establish the correct response to a railroad emergency.

Railroad emergencies may include train derailments, hazardous materials spills, vehicle or pedestrian accidents, medical emergencies, or other emergency situations. All these incidents require that the PST has knowledge of how to contact the appropriate railway company. By contacting the railroad operations center, the PST can stop or slow down a train due to an emergency on the tracks or gain valuable information regarding the bill of lading. The bill of lading shows all the cargo that is on the train, in which car it is located, and car placement in the train. The Federal Railroad Administration (FRA) requires that the bill of lading be in one of three places: in the caboose (if applicable), in the primary engine, or with the conductor.

The FRA developed a video related to rail safety for law enforcement and PST training, titled "Rail Safety for Emergency Dispatchers." This training highlights key points such as:

- Locating an incident
- How to determine which railroad to notify
- How to stop a train in an emergency
- How to locate the train crew and victims
- How to locate railroad personnel and railroad documents
- Determining the appropriate response[39]

NENA also has best practices standards for interacting with railroads.

[Insert agency-specific information regarding local railroads.]

Aircraft Emergencies

While the PST may never have to handle an aircraft disaster, the PST must be prepared to do so. The initial response to an aircraft disaster is handled by the local PSAP and public safety responders. Calls for an aircraft emergency may be reported by a witness or through the local air traffic control center. As with all emergencies, it is important for the PST to obtain as much information as possible; the location, the type or size of the aircraft, and the number of engines will assist the PST in determining the response needed. If the caller is not at the crash site, the caller's location will become a determining factor in locating the crash site. If the caller is at the crash site, information on the number of victims and information on responder access, hazards such as power lines, water, or threatened population will assist in recovery efforts.

[39] NENA, "NENA-STA-013.2-2016 – PSAP & Railroad Interaction." https://cdn.ymaws.com/www.nena.org/resource/resmgr/standards/nena-sta-013.2-2016_rr_psap_.pdf. Accessed April 20, 2020.

Another source of information is a call from a crash survivor. As a PST, one must understand this caller may be disoriented or physically or mentally traumatized and thus unable to give reliable information. If possible, asking for the starting point and destination of the flight may assist in locating the caller. Other information such as the plane tail number, the flight number, and the carrier will assist in locating the victims. APCO published a quick guide for downed aircraft; some questions included in the guide are:

- Type of plane, number of engines, airline, flight number
- Location
- Caller's name, phone number and note the wireless carrier, if needed
- Ask for caller's seat number, if applicable
- Ascertain details of the emergency, such as what occurred, if time permits
- Ask for estimated number of passengers
- Notify the FAA or nearest airport[40] (Stiefermann)

In addition, NENA-STA-038.3.1-2018, NENA Standard for NORAD/FAA Notification: Airborne Events, gives specific call-taking information regarding:

- Emergency calls from an airborne aircraft
  - Potential terrorist events
  - Non-terrorist events
- Suspicious airborne object or aircraft
- Aircraft theft in progress or just occurred

This standard directs when the Federal Aviation Administration (FAA) or North American Aerospace Defense Command (NORAD) Air Defense Sector needs to be notified. It is important to have these resources available if this low frequency, high risk call does occur.

[Insert agency's nearest airport and FAA information]

Marine/Water Emergencies

Minnesota is known as the land of 10,000 lakes. Unfortunately, this number does not include rivers, ponds, creeks and any number of other water hazards. This makes marine/water emergencies more prevalent than in some other areas of the country. It is also important to remember that water/marine emergencies can happen year-round and may include other vehicles besides boats. Minn. Stat. Section 387.03 places the county sheriff as the authority for all water-involved incidents. Sheriff's departments must subsequently report all water-related accidents and/or fatalities to the Minnesota Department of Natural Resources (DNR).

Before an emergency exists, it is important to know what resources may be available. Fire, law enforcement, DNR, U.S. Coast Guard, and the Minnesota State Patrol all may have resources for assistance.

Fire and law enforcement agencies are often the first field-responders in a water rescue. As a PST, it is important to know which agencies have water rescue equipment available for immediate deployment. Many fire departments have water rescue gear, ~~form~~ from boats to suits

[40] Stiefermann, Angie, "Worst Case Scenario: Aircraft Emergency," *APCO Public Safety Communications*, May 2014, p. 26-27.

to ropes. As this equipment will vary by agency, the PST should be familiar with these response plans.

The U.S. Coast Guard is often overlooked as a resource. Jurisdictions which include the Mississippi, the Minnesota, or Red Rivers may have ~~Cost~~Coast Guard connections. Lake Superior also has resources for Coast Guard assistance. It is important to understand that the Coast Guard may not have someone readily in the area. However, if they do, they are willing to assist.

The DNR may also have resources available. The DNR has detailed knowledge of many of the lakes in its jurisdiction. It knows the boat landings and many of the landmarks that can assist in locating victims of water/marine emergencies.

While the Minnesota State Patrol usually does not have water rescue equipment readily available, it does have aircraft which can assist in locating victims. If the call is of a drifting ~~boar~~ boat or loose barge, the Minnesota State Patrol may be able to fly over the watercraft to ascertain a better location and to determine if there are victims visible.

As with all calls, location is the most important element of the call for service. However, much like airline disasters, the location of water-related calls can be problematic. When asked, "What is the location of the emergency?" the victim may only know what waterway ~~he/she~~he/she/they ~~is~~ are on. The PST must then begin a more landmark-based interrogation. Questions that may be helpful are:

- From what landing was the boat launched?
- What landmarks are seen?
- What is the approximate distance from shore?

If on a river, some additional questions are:

- Are any mile markers/GIS markers seen?
- How long has the caller been on the river? (Gives an indication of how far the caller may have travelled.)
- Is the boat going with or against the current (Provides an indication of direction.)
- Does the caller see any river hazards, such as bridges, locks or dams?[41]

Once the location is determined, the PST will follow the department's standard operating procedures regarding gathering information on victims, hazards, and other details.

Water Emergencies – Submerged Vehicle

In addition to boating accidents, the PST may receive calls regarding submerged vehicles. If this happens, it is important to remember that a vehicle may take several minutes to sink. During this time, the PST can give life-saving directions to the occupants. The PST should attempt to obtain the location of the accident as quickly as possible. Once the location is determined, the PST may need to move on to the emergency at hand, how to deal with the sinking vehicle.

[41] Fraser, Jim, "The Communications Center and Water Emergencies," *APCO Public Safety Communications*, November/December 2015, pp. 32-33.

As a vehicle sinks, the pressure of the water against the vehicle will impact the ease in exiting the vehicle. The first step is to have the victims unbuckle their seatbelts and those of any passengers, including children in car seats. The windows of the vehicle should be closed at this time to slow the rate of water entering the vehicle. After everyone is unbuckled, the vehicle windows should be lowered. If the vehicle has electric windows, the windows may still work as long as the battery has power. If the windows will not open, the caller may need to break the window. This can be done by punching a hole in the corner of the window, using a glass-braking tool, a key, or other sharp object, punch and push the glass out. Victims may ~~be~~ also open the door; this is difficult, but not impossible to do. Because of the difference in the water pressure between outside and inside the vehicle, this is a last option attempt to exit the vehicle. If the vehicle has stopped sinking, it may indicate that the water is shallow enough to wade to the shore. If the vehicle is still sinking and the victims cannot make it safely to shore, the victims should climb on the roof of the vehicle. The victims should remain there if possible, until responders arrive.

A quick guide to use when a caller is in a submerged vehicle[42] (Stiefermann):

- Unbuckle the seatbelt and those of passengers. This includes unbuckling children from car seats.
- Roll the window down or break the glass.
- Get out and on top of the vehicle, if the water is too deep to wade to land.

[42] Stiefermann, Angie, "Escaping a Submerged Vehicle," *APCO Public Safety Communications*, April 2014, pp. 32-33.

Section Review

1. In a railway accident, what is the most essential piece of information?
2. Where can the bill of lading be found? Why is it important?
3. How can the PST stop a train?
4. In an aircraft disaster, is it important to know the size of the aircraft? Explain.
5. Besides aircraft crashes, what types of calls may the PST receive regarding aircraft?
6. When should the FAA be contacted?
7. In water-related incidents, who has ultimate responsibility for responding to this type of call?
8. What are some of the resources that may be used in a watercraft incident?
9. If a vehicle is sinking, what is the first responsibility of the PST?
10. Explain the method of exiting a sinking vehicle.

Hazardous Materials

The types of hazardous materials calls are numerous. From calls of pipeline ruptures to major chemical releases, the PST should know what to anticipate in any calls related to hazardous materials.

Pipelines
Pipeline ruptures are a common hazardous material call. These calls range from small feeder lines directly into a home to large transport lines. NENA Standard 56-007, Pipeline Emergency Operations, was developed to assist the PST during the first few minutes of these calls This standard should be reviewed in-depth; Exhibit 1 of this document guides the PST through the intake procedure through the initial response needs and contacting the pipeline.

Hazardous Materials
A hazardous material spill is a low frequency, high risk call. This PST should be aware of hazardous materials that reside in or traverse their PSAP's response area. There are many overlooked hazards. Swimming pools have chemicals that can become toxic if exposed to water and some are flammable. Gun shops have ammunitions which is unstable at high heat, such as in a fire. In the home, propane grills, furnaces, and water heaters may all release hazardous materials if not in proper working order. The PST must remain vigilant of the hazards the emergency responders and public may face.

The goals of a hazardous materials call are the same as with all high-risk calls:

- Protect lives
- Stabilize the incident

If the PST knows that the call involved a hazardous material, some additional information may be required. The PST may consider asking or gathering information regarding:

- Placard identification number
- Number of victims and extent of injuries, if known
- Wind speed and direction. Weather conditions are needed to determine:
    - Responder safety for staging
    - Movement of victims
    - Potential alerts for public safety
    - Evacuate
    - Shelter in place

FEMA introduces hazardous materials in a five-unit online class that may assist the PST in learning the basics of hazardous materials incidents.

FEMA IS-5.A: An Introduction to Hazardous Materials:

Unit 1: Health and Environmental Regulations. This unit explains the roles of federal, state, tribal and local governments in reducing hazardous materials risks, and reviews the key provisions of critical federal legislation.

Unit 2: Hazardous Materials Identification Systems. This unit discusses the two major hazardous materials identification systems currently being used in the United States. It also outlines how communities should be able to recognize a terrorist's use of toxic industrial chemicals as weapons of mass destruction (WMD).

Unit 3: Identifying Hazardous Materials. This unit provides an overview of locations in which these materials are commonly found and discusses ways of determining what particular chemicals, with what health effects, exist in these locations.

Unit 4: Hazardous Materials and Human Health. This unit introduces many of the basic terms used to discuss hazardous materials, problems, and explains how hazardous materials enter and move through the body and the environment.

Unit 5. Preparing for Hazardous Materials Incidents. This unit explains what local communities can do to increase their emergency preparedness to respond to hazardous materials incidents of any size. It also identifies steps individuals can take to protect themselves during a hazardous materials release.

Additional information can also be found at: https://www.ready.gov/hazardous-materials-incidents.

Section Review

1. What are the two major hazardous materials identification systems currently used in the United States?
2. What information can be found on a hazardous materials placard?
3. Why is weather information important in a hazardous materials spill?
4. Is direction of travel needed in an evacuation situation? Explain.
5. What are the two goals of the responders to hazardous materials calls?

Weapons of Mass Destruction, Terrorism & Active Shooters

With high-risk incidents such as school shootings and attacks in shopping malls and parks occurring more frequently, it is important for the PST to have some basic understanding regarding weapons of mass destruction (WMD) and terrorism.

Title 18 U.S.C. §2332a defines WMD as:

- Any explosive, incendiary, or poison gas, including the following: a bomb; grenade; rocket having an explosive or incendiary charge of more than four ounces; missile having an explosive or incendiary charge of more than one-quarter ounce; mine; or device similar to any of the previously described devices;
- Any weapon that is designed or intended to cause death or serious bodily injury through the release, dissemination, or impact of toxic or poisonous chemicals, or their precursors;
- Any weapon involving a disease organism; and
- Any weapon that is designed to release radiation or radioactivity at a level dangerous to human life.

Nature of the Threat

According to national policy, WMD refers to materials, weapons, or devices that are intended to cause (or are capable of causing) death or serious bodily injury to a significant number of people through release, dissemination, or impact of toxic or poisonous chemicals or precursors, a disease organism, or radiation or radioactivity, including (but not limited to) biological devices, chemical devices, improvised nuclear devices, radiological dispersion devices, and radiological exposure devices.[43]

WMD terrorism and proliferation are evolving U.S. national security threats. The Director of National Intelligence has stated that dozens of identified domestic and international terrorists and terrorist groups have expressed their intent to obtain and use WMD – including nuclear materials. Indicators of this increasing threat include the 9/11 attacks, recent mass shootings and multiple attempts by terrorists at home and abroad to use improvised explosive devices created from basic chemical precursors. The challenge presented by these threats is compounded by the large volume of hoax threats that distract and divert law enforcement agencies from addressing real threats.[44]

What to Look For

It is important for the PST to understand that the threat of an active shooter or terrorism is real. Attacks can happen anywhere. August 2019, Dayton, nine dead; August 2019, El Paso, 22 dead; October 2018, Pittsburgh, 11 dead; October 2017, Las Vegas, 59 dead; June 2017, San Francisco, Orange County, five dead; June 2016, Orlando, 49 dead. These are just a few of the mass shootings in the United States in recent history. According to the New York Times, mass shootings with four or more victims occur more than once per day.[45] The PST needs to be mindful of the possibilities of receiving calls involving terrorism or active shooters.

[43] Federal Bureau of Investigation, "Weapons of Mass Destruction," https://www.fbi.gov/investigate/wmd. Accessed April 20, 2020.
[44] Federal Bureau of Investigation, "Weapons of Mass Destruction," https://www.fbi.gov/investigate/wmd. Accessed April 20, 2020.
[45] LaFraniere, Sharon, Sarah Cohen and Richard A. Oppel, Jr. "How Often Do Mass Shootings Occr? On Average, Every Day, Records Show," *New York Times*, December 3, 2015.

The PST is required to be familiar with the PSAPs policies and procedures for active shooters or terrorism calls. The PST can expect that if faced with this situation, the phones will be overwhelmed. The response will be major. The PST must be familiar with one's role prior to receiving this type of call. In addition to the basic call interrogation questions, additional information is vital to the responders:

- Ask the caller if ~~he/she~~he/she/they ~~is~~ are in a safe place.
- Ask the caller if ~~he/she~~he/she/they know~~s~~ the number of shooters.
- Ask the caller where the shooter(s) is/are now.
- Ask the caller if ~~he/she~~he/she/they can describe the shooter(s).
- Ask the caller what weapons are being used. (General information is good.)
- Ask the caller their location in the building.
- Ask the caller if ~~he/she~~he/she/they can safely exit the building.
- If not, can the caller hide/barricade his/herself/themselves in a safe place?
- Is the caller injured? Is anyone with the caller injured?

A sample law enforcement guide can be found on APCO's website.

The Department of Homeland Security produced a video for victims called: "Run!! Hide! Fight!" This video provides excellent information regarding surviving an active shooter event.

The following websites have additional information regarding terrorism and WMDs:
https://www.fbi.gov/investigate/terrorism
https://www.fbi.gov/about/leadership-and-structure/national-security-branch/fbi-counterproliferation-center
https://dps.mn.gov/divisions/hsem/homeland-security/Pages/homeland-seciryt-advisory-committee.aspx

Section Review

1. In an active shooter event, is it important to know where the caller is located in the building? Why or why not.

2. What should the PST tell victims regarding exiting the building during an active shooter event?

3. Why is it important to ask for descriptions of the suspects, if possible?

4. What does “Run! Hide! Fight!” mean?

Fire Calls

With actual fire calls, the PST must remain cognizant of a fire's ability to grow. While many calls progress in a linear fashion, fires grow exponentially. This means time is of the essence. The National Fire Protection Association (NFPA) estimates that there is one structure fire reported in the U. S. every 64 seconds. 92% of fire-related deaths are the result of home fires. On average, seven people die each day as the result of a home fire[46] (Fraizer).

~~While~~ With these statistics in mind, the NFPA publishes a communication standard for all PSAPs which process fire calls. The application of the NFPA communication standard to PSAP operations has not been formally adopted in Minnesota, either in statute or SECB or regional standards, but many PSAPs use the requirements in the standard as quality assurance benchmarks in assessing their call-handling operations. In part, NFPA Standard 1221 requires:

- 90% of emergency alarm processing shall be completed within 64 seconds, with 95% of calls to be processed within seconds. There are exceptions to this requirement, such as use of standardized protocols, foreign languages, and other exceptions. The goal is to process and dispatch fire calls as quickly as possible.
- In addition to call processing time, it is important to send the correct number and configuration of responders. Over assigning or under assigning of apparatus and personnel pose a public safety threat by sending responders in emergency mode (Code 3, with red lights and sirens). Each fire agency should have a written standard operating procedure stating what type of apparatus is needed for each call type.
- All PSAPs must have a minimum of two dispatchers or duty[47] (NPFA).

While these standards address the operational requirements for fire call processing, the call interrogation has not been addressed. For those PSAPs which do not use call protocols, the following questions may be useful:

- Standard intake questions: location, call-back number, caller name (if applicable), type of call.
- What is on fire?
- Does the caller see flame/smoke?
- What type of building is on fire? Single or multi-family home, factory, store, office, etc.
- Is the fire contained to one area of the building?
- Are there any hazardous materials stored in the building?
- Vehicle fires: Where is the fire? Engine, passenger area, trunk?
- Is everyone out of the vehicle?
- Is there any exposure? Is the vehicle close to a building, in a garage, next to other vehicles?
- Other agency-specific questions.

As with all call processing, the PST must ask questions that will assist in painting the picture of the call for field-responders. The PST is the voice of the caller until help is on the scene. The

[46] Fraizer, Audrey, "Link the Chain," *The Journal of Emergency Dispatch*, January 2017, https://iaedjournal.org/link-fire-chain/. Accessed April 21, 2020.

[47] NFPA, "NFPA 1221 – Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems." https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1221. Accessed April 21, 2020.

PST should update responders as needed to ensure they have a clear indication of the type of call to which they are responding.

Section Review

1. What NFPA standard covers fire dispatching?
2. What is the difference between linear and exponential growth of a fire?
3. Besides the location, what essential piece of information is needed to assign fire responders?
4. Who determines the standard responses for fire calls?

Optional Exercises

1. Spend a shift or portion thereof with a fire department/station.
2. Interview a fire chief regarding the fire department's priority for information gathering.

Medicals

It is the responsibility of the PST to ensure that in all medical emergencies, the correct resources are assigned to handle the emergency. This means that one must ask the correct questions to ensure a proper response. Recently, Minnesota lawmakers ~~have~~ enacted Travis' Law (see Minnesota Statute §403.03, Subdivison 1). This law requires that a PSAP make a mental health crisis referral when appropriate.

For the PST, giving pre-arrival instructions or post-dispatch instructions is based on agency protocol and level of training. Pre-arrival instructions are directions given to the reporting person to assist in the stabilization of the patient prior to field-responders' arrival. These can be such instructions as CPR, placing pressure on wounds, or assisting with child-birth. Post-dispatch instructions are those given to aid the field-responders in easily finding the location, having additional information available, and scene safety.

To assist in determining the severity of the medical emergency, the following interrogation questions may be asked:

- Obtain and verify the patient's location.
- Obtain the reporting person's name and call-back number.
- What is the nature of the problem? Exactly what happened?
- What is the gender of the patient?
- What is the age of the patient?
- Is the patient conscious?
- Is the patient breathing? It is important to ask whether the patient is conscious and breathing separately, as the responses may indicate different medical emergencies.

Based on the answers, the PST will determine the call type and response configuration. If the PST is trained in pre-arrival instructions, such as CPR or rescue breathing, the PST should begin these instructions immediately after starting responders. If the ~~PSCCS~~ PST is not trained in pre-arrival instructions, the PST may give CPR instructions if certified to do so and if the agency permits. All relevant patient information should be shared with the field-responders. HIPPA does not prohibit the PST from sharing information that is vital to the patient's care.

The dispatcher may give post-dispatch instructions as required, such as:

- Open the door.
- Tun on the outside lights.
- Secure pets.
- Gather the patient's medications.
- Other instructions, as needed.

As with any other in-progress calls, medical emergencies are fluid. Responses may change as the situation warrants.

In 2019, the Minnesota Legislature passed a law which requires PSAPs to either provide telephone cardiopulmonary resuscitation (T-CPR) instruction to the caller or transfer calls to a PSAP which does provide the instruction. The law states:

> Telephone Cardiopulmonary Resuscitation Program: 911 Services to be Provided

Subd. 2. Telephone cardiopulmonary resuscitation program. (a) On or before July 1, 2021, every public safety answering point must maintain a telephone cardiopulmonary resuscitation program by either:

1) Providing each 911 telecommunicator with training in cardiopulmonary resuscitation; or
2) Transferring callers to another public safety answering point with 911 telecommunicator that have received training in cardiopulmonary resuscitation.

(b) Training in cardiopulmonary resuscitation must, at a minimum, include:

1) use of an evidence-based protocol or script for providing cardiopulmonary resuscitation instruction that has been recommended by an academic institution or a nationally recognized organization specialized in medical dispatch and, if the public safety point has a medical director, approved by the medical director.

2) appropriate continuing education, as determined by the evidence-based protocol for providing cardiopulmonary resuscitation instruction and, if the public safety answering point has a medical director, approval by that medical director.

(c) A public safety answering point that transfers callers to another public safety answering point must, at a minimum:

1) use an evidence-based protocol for the identification of a person in need of cardiopulmonary resuscitation;

(2) provide each 911 telecommunicator with appropriate training and continuing education to identify a person in need of cardiopulmonary resuscitation through the use of an evidence-based protocol; and

(3) ensure that any public safety answering point to which calls are transferred uses 911 telecommunicators who meet the training requirements under paragraph (b).

(d) Each public safety answering point shall conduct ongoing quality assurance of its telephone cardiopulmonary resuscitation program.

Subd. 3. Monitoring and enforcing training requirements. The Statewide Emergency Communication Board shall adopt protocols to ensure that operators of every public safety answering point comply with subdivision 2.

Subd. 4. Liability exemption. (a) if the caller refuses or is otherwise unwilling or unable to provide cardiopulmonary resuscitation -or receive telephone cardiopulmonary resuscitation instruction the 911 telecommunicator is not required to provide cardiopulmonary resuscitation instruction and is immune from civil liability for any damages resulting from the fact that such instruction was not provided.

(b) Telephone cardiopulmonary resuscitation instruction is a general duty to the public rather than a special duty owed to individuals, and a 911 telecommunicator must exercise judgement and discretion in performing actions including but not limited to:

1) determining whether a particular situation requires instituting the cardiopulmonary resuscitation program;

2) determining whether a caller refuses or is otherwise unable or unwilling to provide cardiopulmonary resuscitation or receive telephone cardiopulmonary resuscitation instruction;

3) using and appropriately adapting an evidence-based protocol or script for providing cardiopulmonary resuscitation instruction based on individual callers and emergency situations presented by callers; and

4) determining when to transfer a caller to another public safety answering point with 911 telecommunicators that have received training in cardiopulmonary resuscitation.[48] (Minnesota Revisor)

[48]State of Minnesota Revisor's Office, "Minnesota Statutes Section 403.03," https://www.revisor.mn.gov/statutes/cite/403.03. Accessed April 21, 2020.

Section Review

1. Is it appropriate to ask the age and gender of a patient? Explain.
2. How do the questions of the patient's consciousness and breathing differ?
3. What is the difference between pre-arrival instructions and post-dispatch instructions?
4. In thinking about medical emergencies, what is most concerning to you?

Optional Exercises

1. Ride with a paramedic crew for a shift or partial shift.
2. If not currently certified, attend a CPR certification class.

Deaf and Hard of Hearing Callers

In 1992, Title II of the Americans with Disability Act (ADA) required equal access to 9-1-1. Administered by the Department of Justice, this requires that all ~~citizens~~ community members have access to 9-1-1 regardless of disability. In this case, equal access means that the response time, response quality, hours of operation, and all other features be available to Deaf, hard of hearing and/or speech impaired persons. It also requires the PSAP to establish, implement, and document testing procedures to ensure all PSTs are adequately trained and skilled in the use of the TDD/TTY, including the handling of TTY calls and the ability to transfer to other agencies. Per the U.S. Department of Justice (DOJ), testing must be conducted semi-annually.

TDD Device

The PST must be able to:

- Effectively recognize incoming TTY calls.
- Effectively process TTY calls.
- Use proper TTY protocols.
- Type in English and ASL gloss format.
- Use TTY equipment properly.

TTY etiquette requires appropriate language, which was discussed in length in Chapter 5. Some of the most common language includes using the following:

- Q or QQ to indicate a question has been asked.
- GA is go-ahead. This means that the other person on the call can respond.
- HD indicates hold or wait on the line.
- SK or SK to SK or SKSK (Stop, Stop to Stop, or StopStop) indicates the conversation is ending.

If the PST has not received a GA or SK from the caller, the PST must wait on the line until the caller has completed his/her thought. The use of TTY communication is slow. The PST should expect that these calls will take longer to process.

In addition to the language above, abbreviations may also be used. The PST must not use abbreviations unless the caller has used them. Clarity is key to processing these calls. Some other common abbreviations are:

- NBR = number
- BSY = busy
- HOSP = hospital
- HLP = help
- MED = medical
- ASAP = as soon as possible
- U or UR = you, your, or you're
- CD or CLD = could
- MSG = message
- PLS = please
- R = are
- SHD = should
- TMW = tomorrow

The PST should also pay close attention to the communication style of the caller. In some instances, Standard English will be used, while in others American Sign Language will be used. As discussed in Chapter 5, American Sign Language does not have a written language, however it does have a different structure. Examples:

- Time is referenced first.
- The main thought follows time.
- Descriptive words follow the main thought.
- Does not include verb tenses (work, works, working, worked).
- Does not include connecting words (and, of).

Other requirements:

- Silent 9-1-1 calls must be queried to meet ADA requirements.
- Some TTY callers may press various TTY keys to emit a tone to advise the PST of an incoming TTY call.
- Some equipment advises the caller when the phone is ringing in the PSAP. This may encourage the caller to begin typing which results in the PST not receiving the entire message.
- Some TTY equipment is equipped with a voice announcer which tells the PST that the incoming call is a TTY caller.

Variations on TTY calls:

- Voice Carry Over (VCO) – Allows the caller to speak directly to the PST but needs the PST to type his/her portion of the conversation.
- Hearing Carry Over (HCO) – Allows the caller to hear the PST's portion of the conversation, but the caller needs to type a response.
- Telecommunications Relay Service (TRS) – Is the use of a third-party caller which relays information between the caller and the PST. Minnesota Relay may be reached at 7-1-1.

Photo

Photo used courtesy Sorenson Communications

Section Review

1. Who administers the Americans with Disabilities Act regarding equal access to the PSAP?
2. Skills and knowledge testing for the PST must be held how often?
3. What do the abbreviations GA, Q, and SK mean? Why are they important?
4. There are three variations to the standard TTY call. What are they?
5. How is the call processing time different for TTY calls versus hearing calls?

Chapter 8: Stress Management

Scope

Stress is part of everyday life. In this section, the PST will be introduced to the history, causes, symptoms, and strategies for dealing with stress.

Learning Objectives

1. Learn the definition of stress management and post-traumatic stress disorder.
2. Identify the signs and symptoms of stress.
3. Learn how to combat stress.
4. Become acquainted with additional resources for stress management.

Definition of Stress

Stress is defined as a state of mental or emotional strain/tension, resulting from adverse or very demanding circumstances. It is often thought of as the "fight or flight" response to critical incidents. "Stress management is an automatic physical, mental and emotional response to a challenging event and are a normal part of everyone's life. When channeled positively, stress can lead to growth, action and change. But negative stress can lessen one's quality of life."[49] (Mayo Clinic)

Critical incident stress is often correlated with public safety stress management. It has been found to be very common and very treatable. In the general population, studies have shown that approximately four percent of men and ten percent of women will experience post-traumatic stress disorder (PTSD) sometime in their life[50] (Friedman).

As ~~an~~ a PST, one faces stress daily. The stress comes in forms of a series of extraordinarily busy shifts, traumatic calls, uncertainty of one's abilities to handle a given call, as well as the challenges of work/life balance. While the mental health research has been conducted extensively for police, fire, and EMS, researchers have only recently begun to include 9-1-1 professionals in the study of stress and stress management. Originally the adage of "out of sight, out of mind" was applied to 9-1-1 professionals. It was believed that if one did not see an event, one was not affected by the stress of the event. Mental health professionals are now acknowledging that 9-1-1 PSTs are, in fact, being challenged by high impact stress. It is estimated that PTSD percentages increase to the rate of approximately 18% ~~at~~ to 24% in emergency communication professionals[51] (Lilly). Left untreated, symptoms will impact daily life.

Historical Context of Stress Management[52] (Friedman)

[49] Mayo Clinic Staff, "Stress Management – Overview." https://www.mayoclinic.org/tests-procedures/stress-management/about/pac-20384898. Accessed April 21, 2020.
[50] Friedman, Matthew J. MD, PhD, "History of PTSD in Veterans: Civil War to DSM-5." https://www.ptsd.va.gov/understand/what/history_ptsd.asp. Accessed April 21, 2020.
[51] Lilly, Michelle M., PhD, "Stress-Related Health Problems in 9-1-1 Telecommunicators," *The Call*, Winter 2016. Accessed October 31, 2017.
[52] Friedman, Matthew J. MD, PhD, "History of PTSD in Veterans: Civil War to DSM-5." https://www.ptsd.va.gov/understand/what/history_ptsd.asp. Accessed April 21, 2020.

In “History of PTSD in Veterans: Civil War to DSM-5,” Matthew J. Friedman provides a thorough overview of the history of PTSD and how it has been viewed and diagnosed over time. Stress and stress management have been discussed for as long as there have been humans. Throughout history, authors have written about traumatic experiences and resulting symptoms. The study of life-altering stress has a long history. Today, this stress is often labeled as PTSD. PTSD can be the result of one traumatic event or the result of a high level of sustained stress. With some, this stress has an immediate effect on daily life, while for others the stress may build over days, weeks or months.

In the 1760’s PTSD was referred to as “nostalgia,” with symptoms ranging from a feeling of sadness, to anxiety to sleep interruptions. During the Civil War, PTSD was described as a Soldier’s Heart or irritable heart, which was identified by a rapid pulse, anxiety, or trouble breathing. These symptoms were often treated with drugs and soldiers were sent back to battle. For civilians, the term used was “railway spine,” as travel by railroad was becoming more common, as were railway accidents, thus causing anxiety and sleeplessness.

In World War I, the term used was “shell-shocked.” Often soldiers were taken off the front lines for a few days of rest then returned to combat. Shell-shocked became battle fatigue or combat stress reaction during World War II. Soldiers were treated using the Proximity, Immediacy, Expectancy (PIE) system. This required treating combat soldiers as close to the battle front (proximity), as quickly as possible (immediacy), and with the articulated expectation of full recovery (expectancy). Treatment by PIE was believed to be the most efficient treatment to return soldiers to the battlefield.

During the Vietnam era, there was a correlation found between the stress soldiers encountered, and the stress civilians encountered when faced with an acutely stressful incident. It was made clear that PTSD is not simply a soldier’s malady.

Critical Incidents[53] (Metro CISM Team)
PSTs are faced with critical incidents daily. They are the first responders to hear the cry of a parent whose child has just died. They hear the gunshots of a suicide victim. They stay on the phone to give a loved one vital CPR instruction in the hope~~s~~ of saving a life. They talk with people in crisis daily. While the expectation is for the PST to handle the incident and move on, the stress of those events become part of one’s memory. For a PST, critical incidents include:

- Suicide of a co-worker
- Mass casualty incidents
- Responder-involved shootings
- Assaults
- Catastrophic injury/major illness (either personally, professionally, or family member)

Other events which may be a critical incident include:

- Major incident involving children
- Large media responses

[53] Metro CISM Team, “Critical Incident Stress.” https://metrocism.org/critical-incident-stress. Accessed April 21, 2020.

- Dramatic/intense family situations
- Work environment, protocol violation, low staffing, legal/disciple issues, etc.
- Personal relatable incidents (emotionally and/or physically “hit close to home”)
- Cumulative stress events

Symptoms

Stress can be a positive when the result is growth, such as learning a new skill or improving self-confidence. Long-~~tern~~ term stress or sudden acute stress effect one’s quality of life. There are symptoms that can indicate whether one is experiencing critical stress or PTSD. While we all experience the symptoms of stress, prolonged or reoccurring symptoms may indicate the need for intervention. Symptoms include:

- Behavioral
  - Restlessness
  - Irritability and moodiness
  - Anti-social behavior
  - Increased alcohol consumption
- Physical
  - Vomiting
  - Chills
  - Headaches
  - Disrupted sleep
  - Muscle tremors
  - Chest pain
  - Weight gain
- Cognitive
  - Poor concentration
  - Confusion or uncertainty
  - Nightmares
- Emotional
  - Depression and anxiety
  - Intense anger
  - Grief
  - Guilt

Strategies for Dealing with Stress

While stress is a normal life event, undue stress needs to be addressed. There are strategies that a PST can employ to deal with critical stress and PTSD. Strategies include:

- Breathing – This is the single most important strategy. When one is experiencing extreme stress, one begins to breathe shallowly. This results in greater stress on one’s body. Taking two or three deep, abdominal breaths each hour assists in lowering blood pressure and relaxing one’s body. Deep breathing releases endorphins which give~~s~~ a greater feeling of well-being. BREATHE!
- Remember – Deliberately recalling memories for a limited amount of time helps one’s brain. This allows one to become acclimated to the memory without being overwhelmed by it.

- Maintain – Maintain a healthy lifestyle by healthy eating, exercising, resting, and seeking the support of family, friends and trusted co-workers.
- Attend – Attend a critical incident stress debriefing. Often agencies will provide critical incident stress management (CISM) debriefings for all those involved in a specific incident. This is not an incident debriefing in which each action and reaction is reviewed. This is an opportunity to review the call with other involved personnel to discuss the feelings and personal reactions to the triggering event. By discussing one's feelings with others who have also experienced the incident, one may see the incident from a different perspective. CISM debriefings are a peer-to-peer supportive environment. None of what is shared within these debriefings is shared with others; no information is shared with supervisors, management, or other peers.
- Seek – If needed, seek assistance through the agency's employee assistance program. Usually, this contact is through the Human Resources department, which is concerned about employee health and well-being. Ask for help when needed.

Stress Management

Stress is a normal, natural part of life. As a PST, one is exposed to continued stress involved in call processing, critical incidents, schedule fluctuation, and home/work balance. Maintaining a healthy lifestyle, eating healthy, getting enough sleep, having a positive support system will all assist in minimizing stress. As needed, attending critical incident stress debriefings, seeking assistance through the agency's employee assistance programs will enable the PST to have a long, successful career in the emergency telecommunications field.

Additional Resources

- Metro CISM Team, "Critical Incident Stress" www.metrocism.org/critical-incident-stress
- *The Call*, "~~Stress-Related Health Problems in 9-1-1 Telecommunicators~~Stress-Related Health Problems in 9-1-1 Telecommunicators," Winter 2015.
- *The Call,* "~~PTSD and Pre-Employment Screening~~PTSD and Pre-Employment Screening," Winter 2015.
- *The Call*, "~~Recognizing the Signs of Burnout and Tips to Prevent It in the Future~~Recognizing the Signs of Burnout and Tips to Prevent It in the Future," Fall 2015.
- *The Call*, "~~Life Balance: Is It Achievable?~~Life Balance: Is It Achievable?," Fall 2014.
- *The Call*, "~~Research with 9-1-1 Telecommunicators: What Recent Studies Have Shown About Health and its Predictors~~Research with 9-1-1 Telecommunicators: What Recent Studies Have Shown About Health and its Predictors," Spring 2014.
- The Call, "~~Stress in the 9-1-1 Center~~Stress in the 9-1-1 Center," Fall 2013.
- Agency Human Resources Department – Employee Assistance Program.

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Section Review

1. What is the definition of stress management?
2. How is stress management different from Post-Traumatic Stress Disorder?
3. Name four possible triggers for life-altering stress?
4. What are the four symptomatic areas impacted by critical stress?
5. List three techniques for addressing stress.
6. What is CISM?
7. What role does CISM play in critical incidents?
8. What resources are available through the Human Resources Department?

Chapter 9: Quality Assurance/Performance Standards Management

Scope

This section focuses on how the organization ensures a uniformly high level of service to all its customers. Common tools for quality assurance and improvement will be introduced. Initial training feedback tools may include: daily observation reports (DOR); skills testing; and quality assurance evaluations.

Learning Objectives

1. To become familiar with the various forms of feedback.
2. To understand the importance of performance standards reflected in:
    a. Daily Observation Reports
    b. Skills Testing
    c. Performance Review
3. To become familiar with:
    a. Quality Assurance
    b. Quality Control
    c. Quality Improvement

Background

Whether one is attending school or is employed, one is subjected to performance evaluations. Performance evaluations run the gamut from informal discussions to formal written performance evaluations. Emergency communications continually evolve to meet the expectations of the public, the needs of the responders, and changes in technology. It is important to maintain high performance standards to meet these challenges.

A quality assurance program assists the agency in maintaining a high standard of service by reviewing calls for service from the time a call is presented to the PST through dispatching the call to field-responders. Some agencies may include call processing, radio traffic, and support activities from call inception to completion. The quality assurance program is based on the agency's written standards and legal requirements. The goal is to instill a high level of training and to ensure conformance to documented standards. Basic, core competencies are locally defined to achieve the desired response to operational expectation.

Quality assurance programs also serve to ensure that the individual PST and agency liability is held to a minimum. Policies and procedures are in place to ensure the ~~citizens of the community~~community members receive the best possible service in the most efficient, effective, and professional manner. Quality assurance programs are designed to keep standards of performance high.

Feedback

Feedback is simply defined as a means of providing positive reinforcement for positive performance or providing a guidance to improve performance. The APCO/NENA ANS 1.107.1.2015 Standard for the Establishment of a Quality Assurance and Quality Improvement

Program for Public Safety Answering Points defines, in depth, the need for feedback as a means of ensuring a high quality of call processing[54] (APCO/NENA).

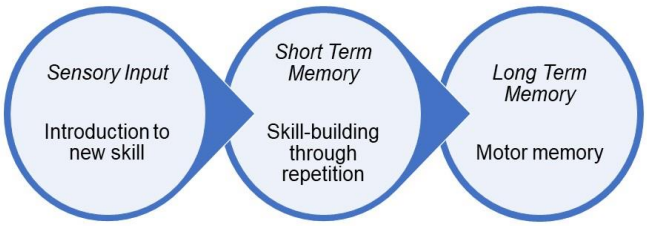
Feedback is often difficult to hear because one often correlates feedback with criticism. Receiving feedback requires the ability to keep one's emotions in check. The assumed negativity of feedback often causes one's fight or flight responses to activate. Be aware of defensive emotions as the goal of quality improvement is to provide a means maximizing a PST's skills and abilities. Feedback is not intended to be personal nor negative. Feedback can provide helpful insight in skill building. As repetition is a necessary step in learning, feedback provides for fine-tuning skills[55] (Baird).

Initial Training – Daily Observation Reports

During the initial training phase, daily observation reports (DOR) are used to track the PST's progress. The DOR documents important topics, skills, and behavior required to progress through the training program; they also ensure that all training topics have been introduced, demonstrated, and accomplished. Written by the trainer, DORs are reviewed daily with the trainee. The DOR becomes part of the training documentation with the progression of each skill being noted. Goals are then set for the next training period. Again, the goal is to achieve the basic mastery of the skills necessary to be a successful PST.

During this initial training, attendance becomes extremely important. Skill building requires repetition. Repetition requires consistent attendance. Building new skills requires moving information from the initial sensory input (new information) to the short-term memory and finally to the long-term memory[56] (Richards). Repetition allows information to be properly processed and stored for quick recall during critical incidents. Repetition consolidates information which allows it to move from the hippocampus or short-term memory to the permanent storage located in the cortex of the brain.

[54] APCO/NENA, "ANS 1.107.1.2015 – Standard for the Establishment of Quality Assurance and Quality Improvement Program for Public Safety Answering Points." https://cdn.ymaws.com/www.nena.org/resource/resmgr/Standards/APCO-NENA_ANS_1.107.1.2015_Q.pdf. Accessed April 21, 2020.
[55] Baird Group, "10 Tips for Giving and Receiving Feedback Effectively." http://www.baird-group.com/articles/10-tips-for-giving-and-receiving-feedback-effectively. Accessed April 21, 2020.
[56] Richards, Regina G., "Making It Stick: Memorable Strategies to Enhance Learning." http://www.ldonline.org/article/5602/. Accessed April 21, 2020.



The DORs assist not only the trainee, but also the trainers. Trainees often have multiple trainers. Each trainer will review the previous DORs to ascertain the current skill level of their new trainee which results in continuity in training. New topics can be introduced. Areas of concern are reviewed. Milestones are celebrated.

[Insert agency DOR form]

Skills Testing

Within the initial training period there are several written skills tests. These tests are based on training modules such as emergency management, NCMEC, NCIC, and other agency-defined skill tests. Tests are used to evaluate individual and agency compliance with local, regional, state, and national standards. Testing continues throughout the employment as recertification is required for NCIC, security, and ADA requirements. For the agencies which utilize call processing protocols, testing is required to ensure standards compliance.

Performance Standards

Performance standards provide specific written directives and operational standards. These are measurable, observable standards. Performance standards are based on the job description, not the individual. The standards are specific indicators of success or need for additional training. The term for evaluations based on performance standards is called SMART.

Specific
Measurable
Agreed upon
Realistic
Timely

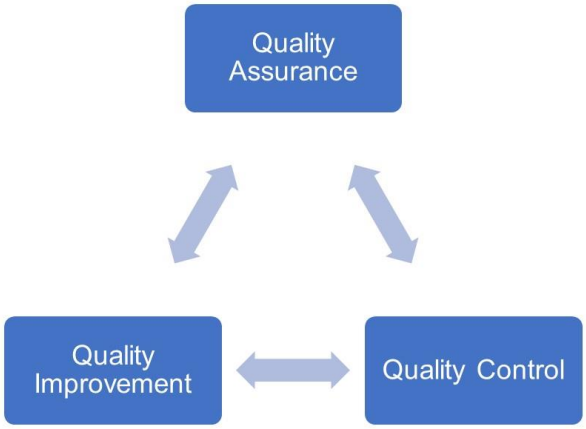
The agency's current evaluation form is:

[Insert agency performance evaluation form]

Quality Assurance, Control, Improvement

Quality Assurance and Quality Improvement for PSAPs is covered under a joint APCO/NENA ANS 1.107.1.2015. The entire standard should be read and reviewed.

Quality assurance, quality control, and quality improvement are continuous processes of evaluation, compliance, and improvement. While the PST is often the focus of quality assurance, the agency is also assessed and in need of continual improvement. Changes to processes are based on new technologies, standards, and expectations.



Quality Assurance
All the training in the world is only as good as the quality assurance program that supports it. Consistent, written standards, on-going evaluations, and reinforcing proper procedures and protocols provide the support needed to achieve a PSAP with highly trained, professional employees.

Quality Control
Quality control involves reviewing a specific number of calls taken by each PST. Often it is two percent of all calls, or a specific number of a specified type of call which are focused upon. Each call is reviewed by listening to the audio log of the call while reviewing the CAD or incident event documentation. All calls are reviewed twice. The first review is to assure that all relevant information has been gathered. The location, caller name, phone number, type of call, and basic call details are reviewed for accuracy. The important information to be covered is documented in

the addendums of the APCO/NENA standard. If a call protocol system is being used, such as APCO or Priority Dispatch, a standardized protocol review is used. A second review is completed to ensure all details were covered and if all acceptable communication standards were utilized.

Each call is evaluated in writing with each component of the call receiving a weighted score. For example: verifying the address of the incident weighs more than using the proper greeting. Each goal score and actual score is documented. A final determination, or score, is given after all components of the call are reviewed. Calls either meet standards or exceed standards. For those calls which fall short of acceptable standards, feedback is given for quality improvement. Each call evaluation is reviewed by the PST and the evaluator so input from the PST may be added as needed. If a call falls below the acceptable protocol compliance level, a plan to approve the specific areas which need improvement will be developed to assist the PST.

Quality Improvement

Quality improvement is two-fold. The first is for the individual PST. This is the opportunity to fine-tune skills. As a new employee, the PST has an immense amount of information to learn, new skills to develop, and a new work environment to which to adjust. The quality improvement program gives the PST feedback based on measurable standards. It strives to be as fair and impartial as possible. Measurable standards take supervisor preferences, shift personalities, and the emotional impact of the call out of the evaluation. Quality improvement both praises the accomplishments of the PST and gives specific directions and goals for her/his improvement. This section is focused on individual education and growth as a PST.

The second objective of quality improvement is for the entire agency. This is where protocol standards are monitored and evaluated. Quality improvement for the agency may include celebrating achieved goals, modifying protocols, updating standards, and, most importantly, providing department-wide standards and training. As with individual quality improvement, the goals of department training are to be attainable, measurable, and timely. By ensuring that standards and goals reflect the current industry best practices, the liability of both the agency and individual are minimized.

Section Review

1. Describe the different types of performance reviews:
    a. Daily observation reports
    b. Skills testing
    c. Performance review

2. How are new skills moved through the brain?

3. Name the three Qs.

4. Describe the two goals of quality improvement.

5. Identify the components of SMART goal setting.

Chapter 10: Glossary

Acronymn/Term	Definition
Abandoned calls	Calls which are disconnected prior to being answered at the PSAP.
ACD	Automatic call distribution
ADA	Americans with Disabilities Act
AHJ	Authority having jurisdiction
ALI	Automatic location information
ANI	Automatic number identification
ANS	American National Standards
APCO	Association of Public-Safety Communications Officials
ARMER	Allied Radio Matrix for Emergency Response (800 MHz radio system)
ASL	American Sign Language
BCA	Bureau of Criminal Apprehension
CAD	Computer aided dispatch
CDR	Call detail record
CALEA	Commission on Accreditation for Law Enforcement Agencies
CISM	Critical incident stress management
CJIS	Criminal justice information systems
COML	Communications Unit Leader
COMT	Communications Unit Technician
COOP	Continuity of Operations Plan
COW	Cell on Wheels
CPR	Cardiopulmonary resuscitation
CRTF	Communications Response Task Force

DOJ	Department of Justice
DOR	Daily observation report
DOT	Department of Transportation
DPS	Department of Public Safety
Duty	The legal obligation to act
E9-1-1	Enhanced 9-1-1
EAP	Employee Assistance Program
EAS	Emergency Alert System
ECN	Emergency Communication Networks (DPS Division)
EMS	Emergency medical services
EOC	Emergency operations center
FBI	Federal Bureau of Investigation
FEMA	Federal Emergency Management Agency
GIS	Geographic information system
GPS	Global positioning system
HCO	Hearing carry over
HIPAA	Health Insurance Portability and Accountability Act
HR	Human resources
HSEM	Homeland Security Emergency Management (DPS Division)
IACP	International Association of Chiefs of Police
IAED	International Academies of Emergency Dispatch
ICE	Immigration and Customs Enforcement
ICS	Incident command system
IDT	Incident dispatch team
IM	Instant messaging
IPAWS	Integrated Public Alert and Warning System

LAN	Local area network
Language Line	Translation services for the PSAP provided by the State of Minnesota
Lat/Long	Latitude/longitude
Liability	The condition of being subject to an obligation
MDC	Mobile data computer
MESB	Metropolitan Emergency Services Board
MNJIS	Minnesota Justice Information System
MSAG	Master street address guide
NANP	North American numbering plan
NCIC	National Crime Information System
NCMEC	National Center for Missing and Exploited Children
Negligence	Failure to act
NENA	National Emergency Number Association
NFPA	National Fire Protection Association
NFR	No record found (Reference ANI/ALI)
NG9-1-1	Next Generation 9-1-1
NIMS	National Incident Management System
NLETS	National Law Enforcement Telecommunications System
NRS	NENA Registry System
NSA	National Sheriff's Association
NTSB	National Transportation Safety Board
PIO	Public information officer
POTS	Plain old telephone service
PSA	Public service area or public service announcement (depends on context)
PSAP	Public safety answering point

PST	Public Safety ~~Communications Specialist~~Telecommunicator
PSCC	Public Safety Communications Center
PTSD	Post-Traumatic Stress Disorder
PTT	Push-to-talk
QA	Quality assurance
QC	Quality control
QI	Quality improvement
RACES	Radio Amateur Civil Emergency Service
RMS	Records management
SMART	Specific, measurable, agreed upon, realistic, timely
SMS	Short message service (160 characters or less)
TERT	Telecommunicators Emergency Response Taskforce
TRS	Telephone Relay Service
TTY/TDD	Teletypewriters
TXT	Text
VCO	Voice carry over
Vicarious liability	Being responsible for another's actions (Supervisor for employee)
WCVC	Wireless Civic Address
WDL1	Wireless Dispatchable Location 1
WDL2	Wireless Dispatchable Location 2
WHP	Wireless home phone
WPH1	Wireless phase 1
WPH2	Wireless phase 2

METROPOLITAN EMERGENCY SERVICES BOARD
9-1-1 TECHNICAL OPERATIONS COMMITTEE

June 15, 2023, 10:00 a.m.

9-1-1 Network Report

1. Reviewing Lumen's Network weekly recap emails, no connectivity issues reported breaks (e.g. fiber cut) in the metro area.

2. Darlene Pankonie spearheading statewide effort of addressing 9-1-1 misdials/inadvertent calls, largely attributed to Android upgrade though other possibilities could be in play.
    - ECN engaging its PIO for communicating the issue to the public.
    - Communication to the public has begun, Anoka contributing – KMSP Fox9 Android phone update leads to sharp uptick in false 911 calls (fox9.com)
    - MESB providing ECN with volume stats comparing March, April, May of this year vs. last. Significant increase, believed to be correlated to increase of misdials.

3. Developing item -- text transfer issue at Anoka.
    - Text transfer attempts failing to adjacent PSAPs, have worked before
    - Transfer functionality near impossible to detect passively. Requires proactively making a transfer. Consider testing regularly, perhaps couple with TTY testing.
    - As part of the fallout, requesting Lumen/ECN to provide network text reporting capability comparable to the network voice reporting.

4. Ongoing: Washington County anomaly of texts presenting as voice calls. Looking to receive update from Lumen before meeting.

5. Scheduling in fall TOC meetings, MESB area vendors to describe what is needed on CHE side for i3 NG911 compatibility.
    - Asking vendors (Intrado, Motorola, Solacom via IES) to provide information at a level somewhere between a list of HW/SW version levels and a full-blown presentation. Sufficient detail for PSAPs to understand what to expect, breadbox sizing for budgeting.
    - Also asking them about experiences elsewhere in US including downstream interfaces such as CAD, Logger, etc.
    - In hard pencil, Motorola scheduled for September – to address all configurations, SaaS, standalone, shared, geo-diverse)
    - Intrado (VIPER) and Solacom in successive months yet to schedule.

6. In progress: developing interop list for text transfers.
    - Assisting ECN by scrubbing the statewide list to ensure accuracy and completion. Will include North Dakota PSAPs (opens door of nationwide interoperability)
    - Developing a one-page description of how to convert to the "numeric" approach of transferring text.
    - What will be different – using a unique PSAP text ID instead of PSAP name.
    - For Example instead of #T ANOKA it will be #T 270030001
    - The numeric system is backwards compatible with the current naming system.
    - CHE should provide some sort of translation table so PSTs can select the PSAP name from a list and not be concerned with the numbering.

- It may be possible for a PSAP admin or power user to install the list on their own instead of having CHE vendor engaged (Airport [VIPER] and Ramsey [VESTA] have done so). Regardless, contact your CHE vendor to know of intention.
- Process: schedule a date of cutover in which Lumen/Intrado will be online to essentially flip the switch to the numeric system on their side and to test to ensure numeric transfers occur properly.
- Contact Jake to get cutover scheduled.
- Recommendation: if engaging CHE vendor to oversee change, lump activity with other work for the vendor, not worth a separate trip charge.

7. Request made to ECN: End-User testing to cover maintenance events potentially impacting Sinch/Lumen (Ingress/Core) interface.
    - A maintenance event with the ESInet triggered the incident in late January in processing T-Mobile calls from Egress-to-Core.
    - MESB requested ECN to provide notice for similar maintenance events or recreate the event (in maintenance window) for end-user testing.

8. Jake researching existing configuration in place for alternate and abandonment routing of metro region PSAPs. MESB would like to refresh these configurations given additional capabilities in NG9-1-1.

Metropolitan Emergency Services Board
9-1-1 Technical Operations Committee
9-1-1 Data Report
June 15, 2023 Meeting

1. **Importance of GIS for 9-1-1:** PSAP managers are strongly encouraged to assist their GIS counterparts in communicating to key decisionmakers and county leadership what a **vital role GIS has to their current and future PSAP operations**. Geospatial datasets provide foundational data for PSAP CAD/mapping systems and future NG9-1-1 core services, as well as support many other non-public safety uses that are important to cities and counties.

2. **Regional Data QA/QC:**
   a. MESB continues to **analyze the region's errors** identified through MESB's internal NG9-1-1 validation tools, GeoComm's Data Hub (GDH), and 1Spatial's platform. These reviews result in outreach to county GIS contacts for recommended data remediations or in some cases the need for MESB to process MSAG and/or ALI updates. The most recent full regional NG911 data validation run through GDH was conducted on 5/25/23.
   b. The MetroGIS Coordinating Committee meets on 6/8/23 and will review the status of their work in several areas that support NG9-1-1 geospatial data requirements. MetroGIS projects to further **refine regional GIS data provisioning and maintenance workflows,** as well as to **publish regional data on external platforms** should both positively affect the delivery of high-quality geospatial data for NG911 Core Services and other public safety applications.

3. **Integration with State NG911 GIS Activities:**
   a. The week of May 15, 2023, ECN held **NG911 Transition Planning meetings**, including a GIS breakout session. From a 9-1-1 data and GIS perspective, the content provided general information about NG9-1-1 and why the transition is being undertaken in the State of Minnesota. In addition, there was discussion about the need for collaboration on ongoing GIS maintenance workflows and expectations, as well as the need for ongoing funding. Alison Slaats, State of MN GIO, participated with ECN in the presentation on geospatial data workflows.
   b. MESB continues to work with MnGeo on remaining issues related to running the metro regional datasets through ECN's **1Spatial NG9-1-1 validations** and submitting the regional data to the **statewide enterprise database**.

4. **Metro Regional GIS-derived MSAG transition:**
   a. ***Complete****:* Chisago County, Dakota County, Anoka County, Eden Prairie, St Louis Park, Edina, Bloomington, Ramsey County, Isanti County, Hennepin Sheriff, MAC Airport, Fort Snelling, Scott County, Sherburne County, Washington County
   b. ***In preparation stage at MESB****:* Carver County (anticipated to be sent to Intrado in June); Minneapolis/U of MN

5. **RapidDeploy RadiusPlus mapping system:**
   a. A **virtual Radius User Group** was held on 6/8/23 to cover the Minnesota rollout, upcoming enhancements, and feature requests.
   b. Wendy Chretien (ECN) and Kelsey Jindra (RapidDeploy) are coordinating **project deployment and "go live"** with MESB and Greater MN PSAPs (e.g., equipment installation, network connectivity, training, and operational use planning). Any metro PSAP with deployment questions can contact Jake Jacobson, rjacobson@mn-mesb.org. RapidDeploy is offering multiple training options, including on-site, if PSAPs prefer.
   c. MnGeo can now merge metro GIS data with the content of the state's enterprise database and upload it to GeoComm. This process will be used to do a **monthly refresh of the ESRI hosted map services** supporting the Radius mapping application.
   d. RapidDeploy and ECN continue to affirm their intention to make the **NENA Enhanced PSAP Registry** and Census data layer more usable for PSAPs. No ETA at this point. This would be

useful in instances when PSAPs receive calls from out of the area or otherwise need to transfer to an out-of-state PSAP.

6. **Verizon Out-of-State Misrouted Calls:**
   a. There have been just under **20 MESB PSAP-reported Verizon out-of-state misrouted 9-1-1 calls** in the last six months.
   b. **Verizon and Comtech's statement** on the topic: "For VoWiFi 911 calls from some Verizon customers, a higher percentage than normal are being routed to PSAPs outside the caller's local area. This is a known issue that Verizon is addressing with handset vendors and its WiFi access point database. We are actively working to update and optimize the access point database information used for call routing, and misrouting incidents are decreasing. We will continue to optimize the WiFi DB and are expecting to complete this work by Q3-2023. 911 calls handled by Verizon's LTE network are not affected."
   c. On behalf of the region, Tony Martin, Director, Hennepin Sheriff's Office PSAP, **started engagement with the FCC** on the issue of Verizon's WiFi misroutes. Tony shared with the FCC the list MESB prepared of MESB PSAP reported out-of-state misroutes.

7. **Dish Wireless starting to go-live in MESB region:**
   a. **Dish Wireless tested and went live with two MESB PSAPs** the week of 5/29/23, Washington County and Hennepin County Sheriff's Offices. In recent months, MESB processed cell sector routing for over 2500 Dish Wireless cell sectors in the MESB region. As a result, PSAP-testing and go-live notifications are anticipated to continue in the months ahead. Dish Wireless contacts at Intrado have been informed to coordinate PSAP testing through Jake Jacobson at MESB.
   b. **Key Dish Wireless contact information** includes:
      i. **24/7 Dish Wireless Trouble Reporting (handled by Intrado):** 800-514-1851
      ii. **24/7 Dish Wireless NOC:** 833-347-4602 Opt. 1
      iii. **Dish Wireless Exigent Circumstance Requests:** 877-510-4357 Opt. 1; Fax 703-953-3661

8. **9-1-1 Integration with Multi-line Telephone Systems/PS-ALI:**
   a. Metro PSAPs continue to experience 9-1-1 calls from business phone systems that are No Record Found (NRF) conditions, often misrouted to the incorrect PSAP (because the NRF routes to a default PSAP.) In these cases, PSAP engagement with management or the IT department at the business has proven helpful in elevating the business' priority to get the issue resolved.
   b. MESB/PSAPs are also finding that, during the sales process, some telecom providers inform businesses of the state's 9-1-1 requirements for multi-line phone systems. The telecom providers also inform the business that the telecom provider does not offer a solution directly, leaving the business responsible to find and engage with a third-party 9-1-1 solution provider to meet those requirements.
   c. To provide PSAPs with better tools when engaging in these businesses, on 5/25/23, MESB requested ECN to update and distribute a previously published information document on 9-1-1 solutions for multi-line phone systems, including contacts for third-party 9-1-1 solution providers.

ONGOING ACTIVITIES

9. **Wireless Cell Sector/Routing Data:** MESB processes wireless routing updates for all carriers on behalf of the metro PSAPs. Should PSAPs want the routing for a specific cell sector or 9-1-1 call reviewed, just email ***mesbgis@mn-mesb.org*** and MESB staff will investigate.

10. **Regional GIS Data Aggregation:**

a. ***Road Centerline and Address Points:*** The MetroGIS/Met Council processes regional road centerline and address point dataset updates nightly to the MN Geospatial Commons website. Each metro county's most recent centerline and address point data that has been uploaded to the portal and passed validations is included in the regional datasets. The regional road centerline and address point datasets comply with the current MN Geospatial Advisory Council (GAC) data standards.
b. ***Boundary Polygons:*** MESB maintains the regional PSAP, ESZ, MSAG community, law, fire, and EMS boundary polygon layers in coordination with the PSAPs. These datasets are updated as boundaries change or at least quarterly. Mobile Positioning Center, Text Control Center, and VoIP Positioning Center vendors are directed to the MN Geospatial Commons for downloads of metro's PSAP boundary polygons.

11. **Regional Data Viewer:** PSAPs are encouraged to use the 9-1-1 dataviewer developed by MetroGIS/Met Council to view the geospatial data county GIS departments consider valid & current for regional 9-1-1 use. (https://www.metrogis.org/projects/9-1-1-Data-Viewer.aspx.)