TELEMEDICINE FRAMEWORK for **EMS** and **911** ORGANIZATIONS

Federal Interagency Committee on Emergency Medical Services

MAY 2021

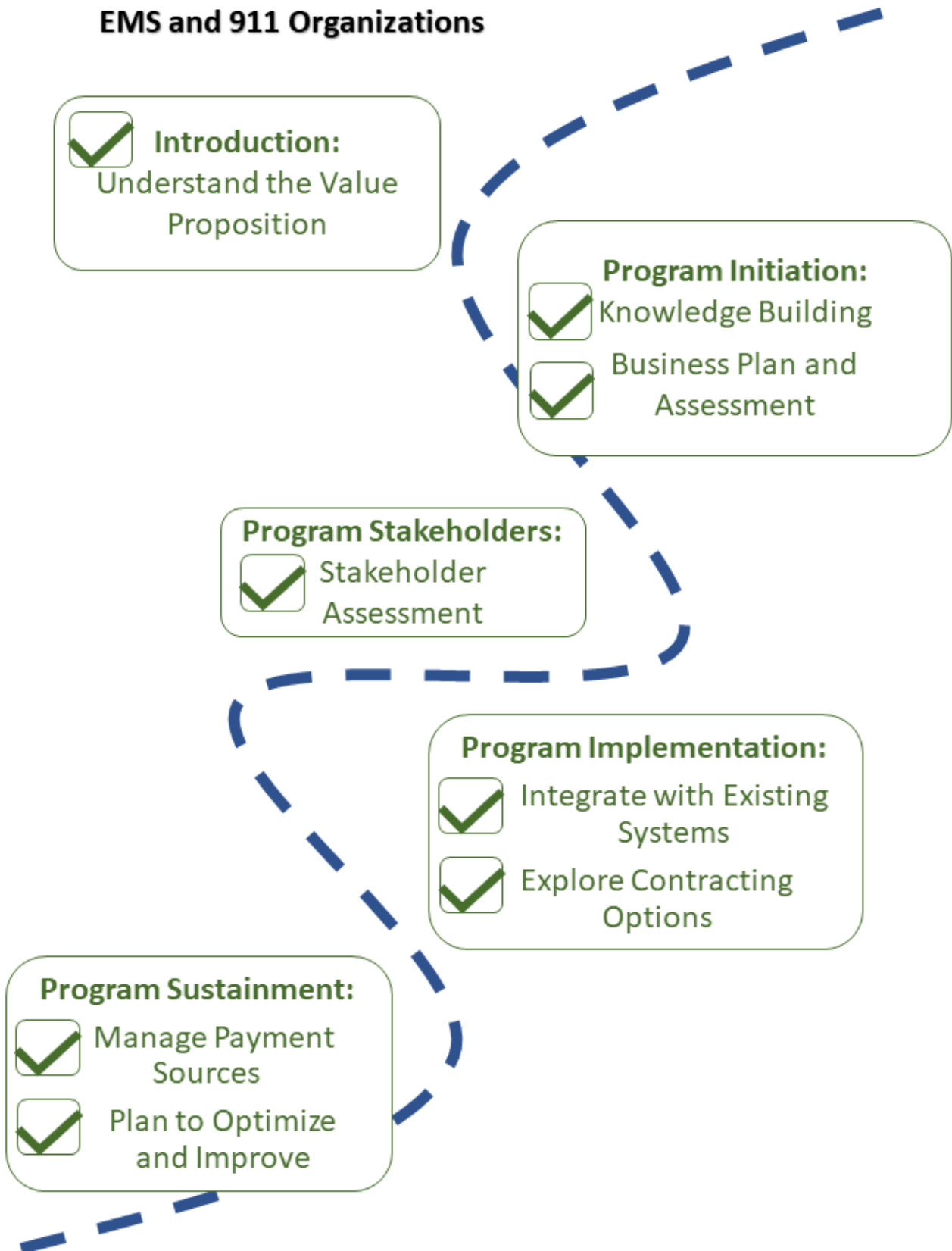# Table of Contents

Telemedicine Program Pathway for EMS and 911 Organizations

Introduction:
Understand the Value Proposition

Program Initiation:
Knowledge Building

Business Plan and Assessment

Program Stakeholders:
Stakeholder Assessment

Program Implementation:
Integrate with Existing Systems

Explore Contracting Options

Program Sustainment:
Manage Payment Sources

Plan to Optimize and Improve

1. Introduction to Establishing a Telemedicine Program

Throughout 2020 and 2021, the use of telemedicine has expanded across the healthcare spectrum in the United States, largely by necessity in response to the COVID-19 pandemic. Telemedicine has emerged across different communities throughout the Nation as an important vehicle for delivering healthcare services without the need for in-person interactions. Adoption and incorporation of telemedicine practices and information into emergency medical services (EMS) and 911 organizations operations can benefit patients, the EMS and 911 communities, and the healthcare delivery systems in which they operate.

Purpose of this Document

This resource document has been developed by the Federal Interagency Committee on Emergency Medical Services (FICEMS) and its partners to provide information to EMS and 911 organizations exploring the possibility of meeting unmet healthcare needs of their patients and communities through telemedicine. This document does not provide operational directives. However, readers will find telemedicine program design concepts and considerations, as well as suggestions for identifying potential strategic community partnerships that could bolster program development. The intent is to provide EMS and 911 organizations with an understanding of opportunities to leverage telemedicine as a pathway for providing patients with quality and cost-efficient care at the right place and the right time.

The target audience for this document includes EMS and 911 organizations, agencies, and practitioners interested in understanding more about telemedicine practices and options as they relate to out-of-hospital healthcare. Though the document is intended to be relevant for all EMS and 911 organizations, it may be most useful for those organizations that are new to the concepts and considerations of telemedicine and are interested in getting started with a telemedicine program. Payers and non-EMS medical providers may also find the information useful.

Strict sequential reading of the document is not necessary. Readers may find particular sections more relevant to their interests. However, a general progression through the chapters will provide an overview of important topics, considerations, and options. Appendices provide additional details and are referred to as appropriate.

WHAT IS A TELEMEDICINE PROGRAM FOR EMS/911?

A telemedicine program for EMS and/or 911 organizations combines various technology solutions and practices under a common system to expand and enhance the delivery of out-of-hospital healthcare. The program allows 911 operations, EMS practitioners, non-EMS healthcare providers, and patients to interact in synchronous communication and share health data. Patients are able receive efficient, individualized care from the 911 call, to the EMS response, to treatment in place or transportation, and follow up. The program includes provisions for sustainable funding or reimbursement, integration with the broader healthcare community, and quality improvement.

A New Level of Service

Telemedicine has been increasingly included in healthcare systems for many years yet has only recently begun to be adopted in EMS and 911 delivery of healthcare services. The pressures and complexities of providing out-of-hospital care during the COVID-19 pandemic have led to an increase in the use of telemedicine in healthcare. This has established a new level of service for EMS and 911 systems with which to provide care to patients.

Definitions

The following definitions are provided for key telemedicine terms used throughout this document.

Telemedicine: As defined by the Centers for Medicare and Medicaid Services (CMS), telemedicine seeks to improve a patient's health by permitting two-way, real time interactive communication between the patient, and the physician or practitioner at the distant site. This electronic communication means the use of interactive telecommunications equipment that includes, at a minimum, audio and video equipment. Telemedicine is viewed as a cost-effective alternative to the more traditional face-to-face method of providing medical care (e.g., face-to-face consultations or examinations between provider and patient) that states can choose to cover under Medicare or Medicaid.[1, 2]

Telehealth: Broader term that includes the use of electronic information and telecommunication technologies to extend care when a patient and their doctor are not in the same place at the same time.[3]

Distant site: Site at which the physician or other licensed practitioner delivering the telemedicine service is located at the time the service is provided via telecommunications system.

Originating site: Location of the patient at the time the telemedicine service being furnished via a telecommunications system occurs.

Live videoconferencing: Live, two-way interaction between a person and a medical healthcare provider using audiovisual telecommunications technology.

Store and forward: Technologies that allow for the electronic transmission of medical information, such as digital images, documents, and pre-recorded videos through secure communications. As compared to a real-time visit, this service provides access to data after it has been collected and involves communication tools such as secure email.

Remote patient monitoring: Includes digital technologies to collect medical and other forms of health data from individuals in one location and electronically transmit that information securely to health care providers in a different location for assessment and recommendations.

Mobile health: The provision of health care services and personal health data via mobile devices (e.g., cell phones and tablets), often including use of a dedicated application software downloaded onto the devices.

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[1] Telemedicine. https://www.medicaid.gov/medicaid/benefits/telemedicine/index.html
[2] 42 CFR 410.78 - Telehealth services. https://www.govinfo.gov/content/pkg/CFR-2011-title42-vol2/pdf/CFR-2011-title42-vol2-sec410-78.pdf
[3] What is telehealth? https://telehealth.hhs.gov/patients/understanding-telehealth/#what-is-telehealth

Relationship with the Emergency Triage, Treat, and Transport Model

Medicare regulations have historically only allowed payment for emergency ground ambulance services when individuals are transported to hospitals or critical access hospitals, with non-emergency payments for transportation to skilled nursing facilities, dialysis centers, and home when deemed medically appropriate. Most beneficiaries who call 911 with a medical emergency are therefore transported only to a hospital emergency department, even when a lower-acuity destination or no need for transportation may more appropriately meet an individual's clinical care needs.

Emergency Triage, Treat, and Transport (ET3) is a CMS Center for Medicare and Medicaid Innovation (CMMI) voluntary, five-year payment model implemented on January 1, 2021 that intends to provide greater flexibility to ambulance care teams and 911 centers to address the emergency health care needs of Medicare fee-for-service beneficiaries during and following a 911 call. CMS will continue to pay to transport a Medicare fee-for-service beneficiary to a hospital emergency department or other covered destination. In addition, under the model, CMS will pay participants to 1) transport to an alternative destination partner, such as a primary care office, urgent care clinic, or a community mental health center (CMHC), or 2) initiate and facilitate treatment in place with a qualified health care partner, either at the scene of the 911 emergency or via telemedicine.

CMS issued a Notice of Funding Opportunity (NOFO) in March 2021 to seek applications for the medical triage line intervention of the ET3 Model. Through a competitive process, up to 40 two-year cooperative agreements may be awarded to eligible entities (e.g., local governments, their designees, or other entities) that operate or have authority over one or more 911 call centers in geographic locations where ambulance suppliers and providers have been selected to participate in the ET3 Model.

The ET3 model will allow beneficiaries to access the most appropriate emergency services at the right time and place. The model will also encourage local governments, their designees, or other entities that operate or have authority over one or more 911 centers to promote successful model implementation by establishing a medical triage line (or establishing a partnership with a medical triage provider) for low-acuity 911 calls. As a result, the ET3 model aims to improve quality and lower costs by reducing avoidable transports to the ED and unnecessary hospitalizations following those transports.

Reimbursement under the ET3 model is limited to CMS-approved Medicare-enrolled ambulance suppliers and providers (e.g., model participants) and their CMS-approved model partners. Additional information about the ET3 model including a list of model participants can be found at https://innovation.cms.gov/innovation-models/et3.

EMS and 911 organizations should identify any ET3 model participants in their region as best practices and lessons learned from EMS organizations participating in the ET3 model may be applicable to EMS and 911 organizations establishing or expanding telemedicine practices.
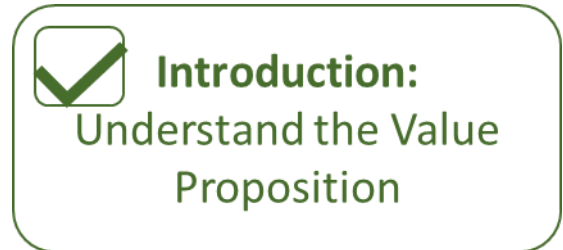
Value Proposition

As telemedicine practices are increasingly adopted across the Nation in EMS and 911 services, the benefits of this emerging approach to healthcare delivery have become more apparent. In summary, telemedicine for EMS and 911 organizations may improve patient outcomes, enhance the patient experience, and reduce the per capita cost of health care. For EMS and 911 organizations interested in establishing a telemedicine program, capturing these benefits in a value proposition will help bring administrators and partners on board. Examples of the value telemedicine can provide for different healthcare stakeholders include:

- **Patients:** rapid access to care, enhanced understanding of care options and delivery, real-time interaction with known or specialized healthcare providers, reduced healthcare bills
- **Community:** improved overall health of populations, reduction in burden of healthcare costs
- **EMS system:** increased efficiency, real-time consultation with remote physicians, improved patient experience and outcomes, enhanced integration with healthcare system, improved relationships with hospitals, diversified revenue streams, increased patient and practitioner safety, enhanced decision making, reduced vehicle crashes and wear
- **911 system:** increased efficiency, enhanced integration into the overall healthcare system, improved situational awareness, enhanced decision making, better understanding of patient outcomes
- **Overall healthcare system:** increased efficiency, integrated systems of care, lower overall costs

In the context of COVID-19, telemedicine offers EMS and 911 organizations wider opportunities to provide and facilitate healthcare services to the communities in which they serve. Throughout 2020, EMS activations varied considerably compared to previous years, according to the National Emergency Medical Services Information System (NEMSIS) and shown in Figure 1.[4] While points of the pandemic showed overall high numbers of activations compared to previous years, the total activations dropped significantly during heightened periods of COVID-19 lockdown (e.g., in the spring of 2020 and the winter of 2020-2021).

> ## 911 Context
>
> - The 911 operating environment is different than that of EMS
> - 911 agencies are funded by state, local, tribal, and territorial (SLTT) government and Federal grants and do not operate under a reimbursement model
> - Telemedicine benefits to 911 agencies are focused on enhancing effectiveness of the delivery of care in the absence of reimbursement

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[4] EMS By the Numbers: Impact of COVID-19. https://nemsis.org/ems-by-the-numbers-impact-of-covid-19/

Common EMS activations for emergencies such as injuries and vehicle crashes drastically diminished. Without these routine activations and associated reimbursements, many EMS organizations have struggled, financially, and some have been forced to close their businesses.[5]

Figure 1: EMS Activations from 2018-2020
Source: National Highway Traffic Safety Administration
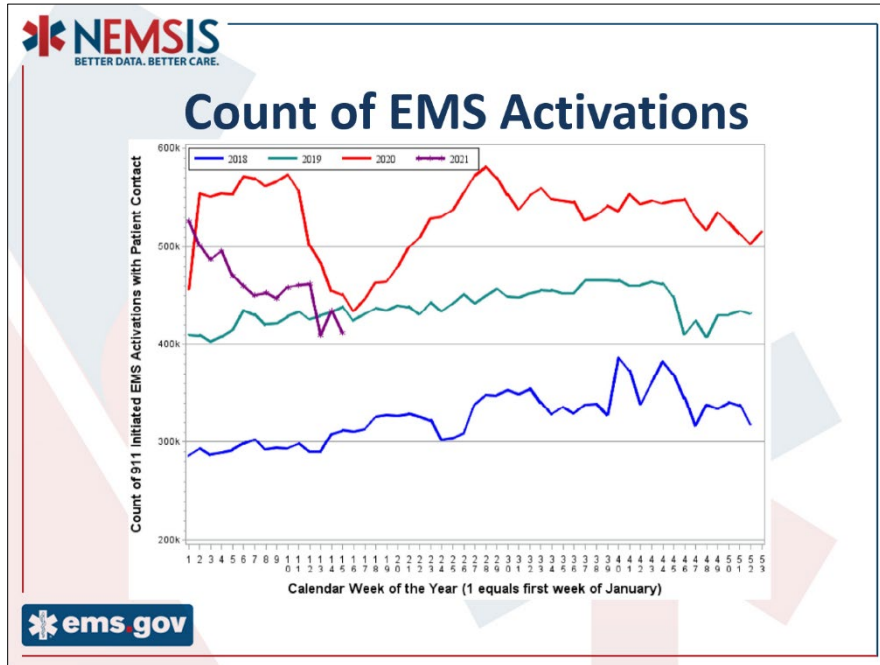
The incorporation of telemedicine in EMS practices may help mitigate such financial risks by increasing access to care upstream of the traditional out-of-hospital and acute care continuum. However, careful planning and consideration of the financial aspects of incorporating telemedicine in EMS and 911 operations is necessary to determine if such advances are feasible and sustainable. A reasoned, realistic business plan is necessary for moving forward. See the business plan section for more detail.

Recommendations from the EMS Industry

The National Emergency Medical Services Advisory Council (NEMSAC) is a Federal Advisory Council of non-Federal EMS experts created in 2007 to advise FICEMS and the Secretary of Transportation on matters related to EMS.[6] NEMSAC issued several recommendations to FICEMS regarding telemedicine in their 2020 *Telehealth as a Strategy for EMS Care* advisory document. The advisory highlights telemedicine as an important resource to expand available EMS activities and extend the reach of medical care. This document represents a major step forward in addressing those recommendations from NEMSAC, especially the promotion of telemedicine (including audio-only telemedicine services) to expand the EMS environment of care in rural and underserved areas of the Nation.

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[5] COVID-19 will accelerate EMS crisis in Pa.'s small towns and rural areas, experts say. https://www.post-gazette.com/news/health/2020/04/04/COVID-19-EMS-crisis-accelerate-Pa-rural-towns-areas/stories/202004040022
[6] National EMS Advisory Council. https://www.ems.gov/nemsac.html

Alignment with *EMS Agenda 2050*

Building on the foundation laid by the 1996 *EMS Agenda for the Future*, *EMS Agenda 2050* was developed through a multi-year initiative that established a vision of people-centered EMS and 911 systems. The document articulates a bold plan for innovative, people-centered possibilities to advance EMS systems. A key component was to foster models for systems that account for changes in social needs, including new reimbursement models. Establishing and implementing telemedicine programs for EMS and 911 systems follows that purpose. The six guiding principles of *EMS Agenda 2050* are shown in Figure 2. This resource document has been developed to support those guiding principles.

Figure 2: EMS Agenda 2050 Guiding Principles
Source: National Highway Traffic Safety Administration

- **Inherently safe and effective**
    - Providing high quality care without in-person interactions
    - Benefit: reduction of response crashes, reduction of emergency motor vehicle crashes and risks, elimination of lights and sirens use
- **Integrated and seamless**
    - Incorporating various data sources, increasing connectivity with providers, and coordinating care across jurisdictions
    - Benefit: easily adapt to the out-of-hospital workflows and environments
- **Reliable and prepared**
    - Routine, effective telemedicine interactions and effectively adapting to challenges
    - Benefit: new technologies such as FirstNet and satellite broadband enable capabilities regardless of location
- **Socially equitable**
    - Providing telemedicine care appropriate for urban and rural areas, cognizant of the needs of different patient populations
    - Benefit: patient access to care regardless of the ability to pay or transportation resources

- **Sustainable and efficient**
    - Establishing new reimbursement models and maintaining effectiveness without hospital transport
    - Benefit: lower cost per visit, elimination of inappropriate utilization, lower emissions, lower wear and tear on equipment
- **Adaptable and innovative**
    - Developing new methods for delivering healthcare services
    - Benefit: rapidly overcome care delivery challenges to unforeseen events (e.g., telemedicine has been used for this purpose during the COVID-19 pandemic)

2. Telemedicine Program Initiation

Establishing an EMS or 911 telemedicine program includes gaining understanding of key concepts and important considerations, conducting a variety of assessments for the EMS or 911 organization's capabilities and operating environment (as well as those for the community), identifying gaps in those capabilities, and developing a business plan to implement telemedicine practices that ultimately builds a sustainable program based on its value proposition.

Chapter 2 Key Takeaways

✓ Take time to review and understand the uses of the numerous resources to establishing a telemedicine program.

✓ Begin with the end in mind—start evaluating the business case for a program at the very beginning.

✓ Take advantage of available assessments and seek additional knowledge to fully conduct all appropriate assessments.

Knowledge Building

Policy, Regulatory, and Legal Considerations

The following policy, regulatory, and legal considerations for telemedicine are current as of January 2021 and may change as the EMS and 911 operating environment evolves (e.g., pandemic changes, public health emergency changes).

Program Initiation: Knowledge Building

Federal

Since the beginning of the COVID-19 public health emergency, the Federal Government has issued an array of temporary regulatory waivers and new rules to equip the American healthcare system with maximum flexibility to respond to the COVID-19 pandemic. Among the overall healthcare system goals for such rules and waivers is to increase access to telemedicine in Medicare and Medicaid to ensure patients have access to physicians and other clinicians while keeping patients safe at home. Some of these waivers have been approved to continue beyond the public health emergency. In addition, the regulatory changes intend to give temporary relief from many paperwork, reporting, and audit requirements so providers, health care facilities, Medicare Advantage and Part D plans, and states can focus on providing needed care to Medicare and Medicaid beneficiaries affected by COVID-19 with minimized regulatory burden. For more information, see https://www.cms.gov/about-cms/emergency-preparedness-response-operations/current-emergencies/coronavirus-waivers.

Section 3704 of the CARES Act authorizes Rural Health Clinics (RHCs) and Federally Qualified Health Centers (FQHCs) to furnish distant site telemedicine services to Medicare beneficiaries during the COVID-19 public health emergency. Updated policy continues this authorization beyond the public health emergency. Medicare telemedicine services generally require an interactive audio and video telecommunications system that permits real-time communication between the practitioner and the patient. Some telemedicine services can be

furnished using audio-only technology. RHCs and FQHCs with this capability can provide and be paid for telemedicine services furnished to Medicare patients located at any site, including the patient's home, for the duration of the COVID-19 public health emergency. For more information, see https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/TelehealthSrvcsfctsht.pdf.

Telemedicine services can be furnished by any health care practitioner working for the RHC or the FQHC within their scope of practice. Practitioners can furnish telemedicine services from any distant site location, including their home, during the time that they are working for the RHC or FQHC, and can furnish any telemedicine service that is included on the list of Medicare telemedicine services under the Physician Fee Schedule (PFS), including those that are added on an interim basis during the public health crisis. A list of these services, including which can be furnished via audio-only technology, is available at https://www.cms.gov/Medicare/Medicare-General-Information/Telehealth/Telehealth-Codes.

The HHS Office for Civil Rights will exercise enforcement discretion and waive penalties for Health Insurance Portability and Accountability Act of 1996 (HIPAA) violations against health care providers that serve patients in good faith through everyday communications technologies, such as FaceTime or Skype, during the COVID-19 nationwide public health emergency. For more information, see https://www.hhs.gov/hipaa/for-professionals/special-topics/emergency-preparedness/index.html.

Throughout the duration of the crisis, CMS has expanded the list of destinations for which Medicare covers ambulance transportation to include all destinations, from any point of origin, that are equipped to treat the condition of the patient consistent with EMS protocols established by SLTT laws where the services will be furnished. These destinations may include, but are not limited to: any location that is an alternative site determined to be part of a hospital, critical access hospital (CAH) or skilled nursing facility (SNF), community mental health centers, FQHCs, RHCs, physicians' offices, urgent care facilities, ambulatory surgery centers (ASCs), any location furnishing dialysis services outside of an end-stage renal disease (ESRD) facility when an ESRD facility is not available, and the beneficiary's home, with the requirement that the facility must be able to provide an appropriate level of care. This expanded list of destinations applies to medically necessary emergency and non-emergency ground ambulance transports of beneficiaries during the public health emergency for the COVID-19 pandemic. For more information, see https://www.cms.gov/files/document/03092020-covid-19-faqs-508.pdf.

EMS and 911 organizations evaluating the viability of a telemedicine program are encouraged to stay informed as CMS guidance may change periodically, and some of these waivers and flexibilities may not be extended beyond the period of the declared public health emergency.

State, Local, Tribal and Territorial

There are multiple potential pathways for payment or reimbursement for EMS and 911 telemedicine services. Such pathways may be options for an EMS or 911 organization and are dependent on the local operating environment, including relevant SLTT laws, ordinances, and policies. Important resources of information on such laws and policies include:

- SLTT public health departments
- Local hospitals
- State EMS offices (https://nasemso.org/about/state-agencies/)

- SLTT EMS associations (https://naemt.org/advocacy/other-organizations, https://www.acep.org/how-we-serve/chapters/, https://ambulance.org/board-committees/)
- State offices of rural health (https://www.ruralhealthinfo.org/organizations/state-office-of-rural-health)
- State rural health associations (https://www.ruralhealthweb.org/programs/state-rural-health-associations)
- National Telehealth Policy Resource Center (https://www.cchpca.org/telehealth-policy/current-state-laws-and-reimbursement-policies)
- SLTT 911 agency or board (https://www.nasna911.org/contact-911)
- SLTT chapters of national 911 associations (https://www.nena.org/page/Chapters; https://www.apcointl.org/apco-membership/chapters/)

See the next section on financial assessment for more information on payment or reimbursement.

Risks

Incorporating telemedicine practices in EMS and 911 operations introduces potentially unfamiliar policy and regulatory risks that are important to consider. For example:

- Federal or SLTT statutes incompatible with telemedicine expenses (e.g., start-up and maintenance costs ineligible for reimbursement)
- SLTT statutes incompatible with required process(es) for handling 911 calls
- Lack of local organization understanding of HIPAA applicability and limitations
- Delays in reimbursement due to regulatory confusion
- Lack of organization understanding of SLTT scope of practice requirements and insurance payer practitioner requirements to provide and bill for telemedicine services
- Legal liabilities associated with SLTT noncompliance (e.g., for patient safety, medical oversight, quality assurance and improvement [QA/QI])
- Regulatory issues surrounding provider credentialing and the ability to practice across state lines

Following existing guidelines from CMS on telemedicine services provided to Medicare beneficiaries (as described above) is a baseline for preventing potential pitfalls in Federal regulation, waivers, or eligibility for reimbursement for EMS organizations. Changes in the Federal regulatory environment in response to COVID-19 pressures may or may not be viable pathways for EMS and 911 organizations in the future. SLTT statutes, policies, or ordinances may support telemedicine as part of EMS and 911 services, but if they do not, other regulatory or payment models may be necessary (e.g., business to business contracting, direct to consumer, or direct to commercial payer). Charging forward into telemedicine without a plan for changes in how to pay and be paid for such services can be financially risky.

Importance of Business Case

Establishing a telemedicine program for EMS and 911 operations requires careful consideration of the wide-ranging financial options, details, benefits, and challenges. Though the innovations and healthcare benefits of telemedicine are compelling and important for advancing EMS and 911 systems,

Program Initiation: Business Plan and Assessment ✓

those benefits cannot be sustainably realized without a business case rationale for why to move forward and a reasoned business plan to implement a program. Codifying the rationale and financial considerations into a

business plan specifically for a telemedicine program can support establishing and maintaining the program. More detail on developing such a plan is in the Business Plan section. To make informed decisions on the business case and business plan, multiple assessments can be conducted.

Assessments

Many different pieces are needed to fit together to decide on whether to pursue and develop a telemedicine program for EMS and/or 911. Important assessments include:

1. **Financial –** opportunity for reimbursement for ongoing operations costs, as well as billing and payment requirements of Medicare, Medicaid and commercial insurers
2. **Community needs –** health needs of the community overall, needs of unique patient populations, and the availability of practitioner partners in the local community
3. **Current capabilities –** telemedicine-relevant abilities of the EMS and/or 911 organization
4. **Resources –** clinical, operational, and technical support for telemedicine, including management, clinical personnel, and technology
5. **Funding –** financial support for establishing a telemedicine program

Throughout these individual assessments, the organization can identify gaps and combined with the individual results, can conduct an overall gap analysis to identify where focus is needed to move forward. The combined gap analysis and results can then be used to develop a business plan for program implementation. Figure 3 shows this general process of conducting assessments and a gap analysis to develop a business plan, as well as measure progress.

Figure 3: Telemedicine Program Initiation Assessment

Financial Assessment

The financial assessment is a critical early step to developing a telemedicine program. Understanding the financial landscape, including costs and revenues, will ultimately determine if a telemedicine program is feasible and sustainable.

A financial assessment of the program's operating costs will require identification of both start-up costs, capital funding requirements, and operating costs for ongoing clinical services. A financial assessment of the program's operating revenues will require identification of reliable sources of revenue to fund ongoing clinical services to patients and to achieve program sustainability. The cost and revenue components described below identify the general types of costs and sources of revenue necessary to support ongoing telemedicine services and are not intended as all-inclusive list. Major components of the financial assessment to be included in the telemedicine program budget and business plan include:

- Identify start-up and ongoing operating costs
    - Initial costs associated with starting a telemedicine program including capital equipment (see the Resources Assessment section), cost of program design and development (e.g., updates to standard operating procedure and clinical protocols) and implementation
    - Costs associated with ongoing management and staffing of clinical services
    - Costs associated with medical oversight, quality improvement and personnel training
    - Costs associated with business development and revenue cycle management
    - Costs associated with applicable overhead and administration
    - Costs associated with lost revenue opportunities (e.g., a telemedicine encounter replacing an EMS response and transport)
- Identify sources of revenue for ongoing clinical services
    - Fee-for-service reimbursement from health care insurers:
        - Medicare
        - Medicaid
        - Commercial Insurers

- Direct contracting with health care insurers

  - Commercial insurers, Medicare managed care, Medicaid managed care, accountable care organizations (ACOs) and population health management organizations

- Direct contracting with health systems, businesses, and consumers

- Partnerships with FQHCs, CMHCs and other safety net providers to provide healthcare access via telemedicine to the uninsured

- 911 surcharges and general fund allocations from SLTT sources

- Identify resources associated with existing billing and payment systems which could be adapted during telemedicine program implementation

  - The Center for Connected Health Policy (CCHP) has published An Introductory Guide on Fee-for-Service Billing for Telehealth Encounters.[7]

  - CMS has published the ET3 Model Billing and Payment Fact Sheet for Treatment in Place (TIP) via Telehealth.[8] These Medicare billing and payment guidelines apply only to Medicare-enrolled ambulance suppliers and providers that are official ET3 Participants and their approved partners. While these guidelines may not be used by EMS organizations to bill Medicare outside of the ET3 Model, the ET3 Model billing and payment approach may be a useful resource to state Medicaid agencies and other commercial payers in building fee-for-service reimbursement programs for other EMS and 911 telemedicine programs.

- Identify resources for program implementation

  - A range of potential clinical partners may include individual practitioners, physician groups, health systems and telemedicine companies that have existing telemedicine infrastructure, billing mechanisms (see the stakeholders chapter for other potential partners), and payer relationships that may be leveraged to help defer program costs

  - An example of a healthcare innovation program with both a telemedicine component and an EMS community paramedicine component is the Johns Hopkins Hospital at Home program[9]

- Identify sources of funding for start-up costs

  - Grants – Non-profit and government grants may be available to support the initiation of a telemedicine program. Generally, grant programs do not provide sufficient funding for ongoing operations beyond start-up costs.

    - FCC COVID-19 Telehealth Program: https://www.fcc.gov/covid-19-telehealth-program

    - CMS NOFO grant funding for the costs associated with implementation of a 911 Telehealth referral program: https://innovation.cms.gov/media/document/et3-nofo-triageline

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[7] Center for Connected Health Policy (CCHP), Billing for Telehealth Encounters, An Introductory Guide on Fee-for-Service, January 2020. https://www.cchpca.org/sites/default/files/2020-04/Billing%20for%20Telehealth%20Encounters_final.pdf

[8] CMS, Emergency Triage, Treatment and Transport (ET3) Model Billing and Payment Fact Sheet for Treatment in Place (TIP) via Telehealth. https://www.ems.gov/pdf/Billing_and_Payment_TIP_Telehealth_Factsheet_December_2020.pdf

[9] Johns Hopkins, Hospital at Home. https://www.johnshopkinssolutions.com/solution/hospital-at-home/

- U.S. Department of Agriculture (USDA) Rural Development Program grants for telemedicine equipment: https://www.rd.usda.gov/programs-services/distance-learning-telemedicine-grants

- Sponsorships and in-kind resources – Healthcare stakeholders and partners in the community or region may offer incentives, exchanges, or other support to EMS and/or 911 organizations starting a telemedicine program.
    - For example, if a healthcare entity is at financial risk for managing the healthcare expenses for a particular population, value is generated when patients can receive treatment in place
    - Specific examples include the CMMI Independence at Home[10] program and the Orleans Parish Communications District example below[11]

- Start-up capital – Universities, non-profit small business centers, large employers, and other private business (such as venture capital firms) may be interested in promoting health care innovation start-ups

- Contract negotiations – Companies with existing contracts with 911 agencies may be willing to negotiate changes or additions to accommodate the need for telemedicine functions

- Identify opportunities for an established telemedicine program to be incorporated in a pay-for-performance program or other advanced payment model which might be negotiated between the EMS and/or 911 organization and a health care insurer

> **IN-KIND RESOURCES**
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> A public safety contractor provided a Parish Communications District in Louisiana with software that allows call centers to view the location of 911 callers, giving first responders more accurate locations of patients. The software also allows EMS practitioners to conduct video calls with patients to track their symptoms and movements with minimized risk of exposure to first responders in the field.

Successfully identifying, negotiating with, and maintaining new customers and payers will likely require specialized expertise in business development, health care reimbursement, contract negotiations, and a thorough analysis of the value proposition offered to each respective payer (see Value Proposition section). As telemedicine is a new service line for most EMS and 911 organizations, there will likely be wide variability in the opportunities available in each local community.

See Appendix C for a more detail on financial considerations.

Community Needs Assessment

The community needs assessment can determine areas in which telemedicine can address a healthcare need in the community.

- Identify community healthcare needs to be filled, and potentially to participate in telemedicine

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[10] Independence at Home Demonstration. https://innovation.cms.gov/innovation-models/independence-at-home
[11] COVID-19 ECC RESOURCES. https://www.opcdla.gov/covid-19-ecc-resources/

- Identify all partners for telemedicine operations
    - Refer to the [stakeholders chapter](#) for more information on potential partners
- Identify different major demographic populations to be served (including geriatric and pediatric) populations
- Leverage existing community needs assessments from local health departments and hospitals

Current Capabilities Assessment

The current capabilities assessment can identify specific methods by which the EMS and/or 911 organization could optimally meet the healthcare needs of the community to receive the right care at the right time. The current capabilities assessment can also identify those capabilities the EMS or 911 organization can leverage for telemedicine, especially for:

- Connectivity and bandwidth of network systems
- Hardware and software, including adaptability of current infrastructure
- Systems and data integration, including meeting technical and administrative requirements
- Medical oversight
- Practitioner availability / connection
- Cybersecurity requirements, especially those related to interconnection

Resources Assessment

The resources assessment can identify the various support systems, assets, and personnel that will be required for a telemedicine program. These resources can be categorized as operational or technical.

ASSESSMENTS

Key information sources on how to conduct and collect results on assessments:

- Local Health Department
- Local Hospital
- State or Local EMS Association
- Local university health administration

Operational Resources

- Availability of telemedicine-specific resources
- Availability of EMS and 911 resources and bandwidth for any increase in responsibilities
- Availability of personnel to maintain and oversee telemedicine functions
- Medical oversight
- Process for changing standard operating procedures and clinical protocols
- Training that will be required
- QA/QI processes that may be included
- Public information campaigns to garner acceptance of telemedicine by consumers through increasing their understanding of the new services being offered and how the new system will improve their care

- Status of current technology utilized by EMS/911 in the community
    - Network and infrastructure
        - Options for rural/frontier connectivity
        - Access
        - Hardware and software
        - Remote patient monitoring (RPM)
- Network/Infrastructure capabilities of potential partners
- Availability/feasibility of testing/deploying infrastructure (i.e., network, hardware, software) required
- Availability of ongoing technical support during operation

Gap Analysis

An overall gap analysis can be created for telemedicine program initiation by combining the individual assessment gap analyses. This can help highlight the target areas on which an EMS or 911 organization may want to focus to move forward with program initiation. See Appendix B for a visual representation of how to get started with the gap analysis.

Business Plan

A clear and well-thought-out business plan for an EMS/911 telemedicine program may be the most important component of a successful program. Even the most advanced technological telemedicine systems are subject to pressures of financial sustainability. Providing the best care possible to patients is not enough if telemedicine operations cannot be adequately reimbursed or funded. Therefore, planning for how telemedicine systems, services, and practices will be funded and maintained will demonstrate the program's feasibility. The results of the assessments described previously will inform the business plan and help demonstrate how the expected telemedicine program will be viable.

General key components of a telemedicine program business plan could include:

- **Executive Summary**
    - Identify the need for the program
    - Identify key stakeholders
    - Identify expected outcomes
    - Project costs and expected return on investment
- **Introduction and Background**
    - Outline potential program benefits
    - Describe the organization
    - Engage key stakeholders (see the next chapter)
    - Establish goals and metrics (see the following measurement section)

> ## 911 Context
>
> - A telemedicine business plan is equally important for 911 agencies and EMS organizations
> - Though not concerned with reimbursement, 911 agencies would plan for startup costs, hardware/software/service costs, ongoing maintenance and management, and funding sources

- **Assessments**
  - Include [financial](#), [community needs](#), [current capabilities](#), and [resources](#) assessments as described previously
- **Marketing**
  - Demonstrate value to stakeholders
  - Promote the plan
- **Operations**
  - Integrate with the broader healthcare system
  - Conduct education and training
  - Management and staffing
- **Financial Plan**
  - Identify revenue sources
  - Identify short and long-term expenses
  - Project return on investment
  - Establish targets and milestones
  - Include sustainability plan

For more detail on creating a business plan, see [Appendix C](#) and the National Consortium of Telehealth Resource Centers [15 Key Steps For Creating A Business Proposal To Implement Telemedicine](#).

Measurement

Performance measurement of the program will be essential in quantifying and communicating the value proposition to current and future payers, patients, and the public. Performance measurement includes identifying, collecting, analyzing, and reporting on indicators that show how well the organization performs, both internally and in the delivery of services to the public.

Key components of a performance measurement strategy could include:

- Quality
- Patient safety
- Patient and provider experience of care
- Utilization
- Cost
- Define success for the EMS or 911 organization
- Measure progress – identify metrics and milestones to document each step

For more information on performance measurement see the Institute of Healthcare Improvement (IHI) resources website (http://www.ihi.org/resources/Pages/default.aspx).

3. Telemedicine Program Stakeholders

Coinciding with conducting the various assessments and gap analyses and developing a business plan described in the previous chapter, an EMS or 911 organization will want to increase their awareness of and engage with important telemedicine stakeholders. Regardless of the results of the assessments and gap analyses, the right people will need to be involved to establish and maintain a telemedicine program, including those relating to telemedicine operations and infrastructure, patient advisory and advocacy groups, policy makers, and payers. Determining the stakeholder groups on which to focus for engagement depends on the kind of model an EMS or 911 organization chooses to develop for telemedicine, the outcomes the organization wishes to achieve, and the different scenarios and patient journey the organization expects to encounter.

Chapter 3 Key Takeaways

✓ Identify your most important stakeholders and consider any additional stakeholders who are key to the success of your telemedicine program.

✓ Ensure that each unique stakeholder group has a unique communication approach to increase outreach effectiveness.

✓ Connect aspects of the business plan to key stakeholders such as payers to ensure an effective and sustainable telemedicine program.

Stakeholder Assessment

Similar to the steps to take in the telemedicine program initiation chapter, an assessment of the telemedicine stakeholders in the EMS or 911 organization's jurisdiction will help with awareness and planning a path forward for stakeholder engagement. Important steps for conducting the stakeholder assessment include:

Program Stakeholders: Stakeholder Assessment
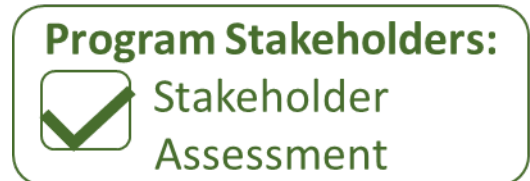
- **Identify stakeholders** for operations and infrastructure, patient advisory and advocacy groups, policy makers, and payers (as described in the following sections of this chapter) relevant to the jurisdiction.

- **Engage relevant stakeholders** through teleconferences, meetings, or webinars to discuss telemedicine options and practices. In addition to the stakeholder groups identified, include local EMS and 911 professionals in the discussions.

- **Identify advocates** among the stakeholders that are interested in expanding EMS and/or 911 telemedicine, especially influential leaders, policy makers, and patient advocacy groups. Partnering with interested stakeholders to achieve desired outcomes for patients and the community can be an effective strategy, especially where those interests are aligned.

- **Partner with influential stakeholders** to bolster the development and sustainment of a telemedicine program. Maintaining buy-in with stakeholders, especially patients and payers, will continue to support the program.

Operations and Infrastructure

Stakeholders representing the key people with which EMS and 911 organizations will interact while conducting telemedicine operations as well as those involved with telemedicine infrastructure include many different groups worth considering for engagement.

- **Qualified healthcare providers (QHCPs)** – professionals that may be involved in telemedicine encounters with patients, including general practitioners and specialists

- **Community healthcare systems** – providers of healthcare services available in the community, including hospitals, FQHCs, and CMHCs to support patients in their homes or support their caregivers

- **Alternate transport destinations** – non-hospital facilities to which patients may be transported by EMS, such as clinics and urgent care facilities

- **911 Public safety answering points (PSAPs)** – 911 call centers that process 911 calls to dispatch emergency services

- **Technology** – technical support of telemedicine

  - **Service providers** – those that offer services upon which telemedicine relies, such as Internet service providers (ISPs), wireless communication service providers (possibly including FirstNet), and providers of network/software that interconnect 911 networks with telemedicine

  - **Manufacturers** – producers of equipment, hardware, and software used for telemedicine or to interconnect 911 networks with telemedicine

  - **Vendors and service providers** – sellers of telemedicine products and services, including equipment, hardware, software, and systems; those who own infrastructure and provide services based on existing infrastructure functionality

- **Public Affairs/Consumer Affairs** – providers of public information campaign information and tactics; to facilitate public's understanding/acceptance of enhanced services via telemedicine

> ### STAKEHOLDER COLLABORATION
>
> A public health nurse and policy advocate for rural Colorado EMS brought together EMS practitioners, a telemedicine services provider, and ET3 stakeholders to establish a new telemedicine model of care. In light of COVID-19 risks to patients and healthcare providers (including EMS) and limited PPE for EMS, telemedicine services were incorporated with EMS dispatches to patient homes for non-acute calls. The EMS practitioners can conduct virtual visits from outside the patient's home, consult with remote physicians, and collectively determine the appropriate care response. Program outreach and education for the local EMS practitioners ensured their buy-in and confidence in the program.

Patient Advisory and Advocacy Groups

Groups that provide guidance to patients to increase their healthcare awareness and ability to make informed decisions are important stakeholders to include in a telemedicine program. Patient advisory groups and patient advocacy groups have close connections with the concerns and challenges faced by different patient populations

and can provide valuable insights as well as generate buy-in with the local patient community. Understanding the potential benefits to the patient that telemedicine can provide and how telemedicine is incorporated along different points of the patient journey can help support an overall telemedicine program.

Sources of more information on patient advisory and advocacy groups include:

- Patient Advocate Foundation
- Alliance of Professional Health Advocates

Policy Makers

Stakeholders involved in making and implementing healthcare and telecommunications policy are important partners to have for developing a telemedicine program. Policy makers will have in-depth knowledge of local and state laws, regulations, and ordinances that impact and govern telemedicine in EMS and 911 operations. Policymakers can help shape state and local legislation to benefit the development of telemedicine programs. Important stakeholder groups to consider include:

- **Government officials –** local and state government representatives involved in healthcare and telecommunications policy, such as:
    - Local government health department
    - State EMS agency
    - State government health department
    - State Medicaid director
    - SLTT emergency manager
    - SLTT 911 agency
    - SLTT telecommunications agency
    - Public Utility Commission (especially for telecommunications)
    - Federal EMS officials (e.g., if there is significant Federal EMS presence in the region from military bases, National Park Service, etc.)
- **Governing boards, councils, and committees –** some EMS and 911 organizations are administered by SLTT governing boards, councils, or committees rather than government-only bodies
- **State or national trade associations –** groups that advocate for the advancement EMS and 911 systems nationally or with state chapters, such as:
    - EMS associations
        - American Ambulance Association (AAA)
        - American College of Emergency Physicians (ACEP)
        - National Association of EMS Physicians (NAEMSP)
        - National Association of Medicaid Directors (NAMD)
        - National Association of State EMS Officials (NASEMSO)
        - National Registry of Emergency Medical Technicians (NREMT)
        - National Association of Emergency Medical Technicians (NAEMT)

- 911 associations
  - [Association of Public Safety Communications Officials (APCO)](#)
  - [Industry Council for Emergency Response Technologies (iCERT)](#)
  - [National Association of State 911 Administrators (NASNA)](#)
  - [National Emergency Number Association (NENA)](#)
- Telemedicine associations
  - [American Telemedicine Association (ATA)](#)
  - [International Society for Telemedicine and eHealth (ISfTeH)](#)
  - [National Consortium of Telehealth Resource Centers](#)
  - [National Telehealth Policy Resource Center](#)

Payers

Engaging and partnering with those that ultimately pay for EMS and 911 services is critical for the success of a telemedicine program. Regardless of how beneficial telemedicine may be to delivering high quality care to patients, no telemedicine program can be sustained without adequate payment. Options available to EMS and 911 organizations will vary depending on their location, populations they serve, from whom they routinely receive payment, and state and local laws and regulation. Important categories of payers with which to engage on telemedicine include:

- **Medicare –** details on telemedicine payment from Medicare and Medicaid are available from the CMS [website](#)
- **State Medicaid program –** how Medicaid is administered in the state(s) in which the EMS or 911 organization operates determines Medicaid payment options
- **SLTT 911 agency or board –** may provide grants/funding to local 911 agencies from 911 surcharge funds
- **SLTT public utility commission –** may provide grants/funding/resources for telemedicine services
- **Private insurer –** insurance companies may offer direct payment options for telemedicine services
- **Business to business contracting –** EMS and 911 organizations may enter into direct contracting agreements with private businesses for payment of telemedicine services
- **Business to consumer billing – c**onsumer pays out of pocket for services

4. Designing and Implementing a Telemedicine Program

Many steps and considerations are necessary in designing and implementing an EMS and/or 911 telemedicine program. The major dividing line in the decision-making process involves deciding whether to incorporate telemedicine as an extension of existing EMS and 911 systems (i.e., adopting existing telemedicine platforms, mechanisms, and processes), or to develop an entirely new telemedicine system. Most EMS and 911 organizations will likely choose to incorporate telemedicine practices within existing mechanisms and processes (or partner with existing telemedicine providers) rather than inventing an entirely new system.

Chapter 4 Key Takeaways

✓ Ensure existing program infrastructure is properly considered when integrating a telemedicine program.

✓ Consider what your telemedicine program key performance indicators (KPIs) are and tie them back to the business plan.

✓ Take advantage of contracting options to streamline telemedicine program operations.

Integration as an Extension of EMS and 911

Incorporating telemedicine practices into EMS and 911 operations represents a significant shift in culture in their operating environments. It will be important to continually maintain contact and buy-in with the stakeholders identified in the previous chapter to keep the necessary stakeholders as aligned as possible and help smooth the transition of the EMS and 911 organization to establishing telemedicine operations. How EMS and 911 telemedicine systems integrate into other components of the healthcare delivery system, (e.g., hospitals and other health care facilities) is equally important.

Program Implementation: Integrate with Existing Systems

There are many important options and considerations for telemedicine integration, including selecting from existing mechanisms, strategic preparations, and financial concerns. Key topics among these considerations are summarized in the following.

Selecting from Existing Mechanisms

The state or local community of healthcare providers may have existing telemedicine practices, platforms, and mechanisms that can be adopted by EMS and 911 organizations. It is likely advantageous to select from such existing mechanisms that providers already use rather than selecting a platform or mechanism first and then identify

911 Context

- Partnerships with healthcare providers that have existing telemedicine practices may be advantageous for 911 agencies

- EMS organizations may be interested in the same partnerships

providers with which to partner in common telemedicine practices. There are many different telemedicine platforms available and it is important for the EMS and 911 organization to carefully select the right one for their organization. Major decision points for selection include:

- Ease of use for the organization and patients
- Opportunities to build economies of scale
- HIPAA compliance
- Cost of implementation
- Compatibility with other healthcare providers and organizations in the community or region
- Potential for additional costs, if need for system revision is identified
- Flexibility/adaptability of telemedicine service to existing protocols/standard operating procedures
- Providers accessible via existing procurement requirements
- Technical compatibility with existing infrastructure

Once a platform or mechanism is selected, existing EMS and 911 organizations should be included to provide key operational practices (these groups should also be included in the selection process). Key groups include existing:

- PSAP and 911 operators
- EMS clinicians
- EMS medical director(s)
- Other advanced practitioners involved in EMS operations
- Others involved in 911 operations (e.g., technical support, information technology [IT])

Credentialing and Telemedicine

The exchange of proper credentials and licenses between EMS and 911 operations and other healthcare providers is important for telemedicine effectiveness, security, and regulatory compliance. A credentialing process will depend on the design of the telemedicine program. Some telemedicine platforms do not require additional or new credentialing and are able to incorporate existing credentials. Important considerations for credentialing for EMS personnel and other healthcare providers within a telemedicine program include:

- Relevant EMS and 911 certifications and how information/credentials are exchanged

TELEMEDICINE IMPROVES RURAL EMS

A rural health system in Arizona adopted telemedicine practices for their jurisdiction to provide real-time advice from emergency physicians to EMS practitioners in the field and to introduce follow-up care to patients to reduce return ED visits. The program installed telemedicine equipment (including rural broadband) in EMS vehicles and established remote follow-up care coordinators. Recent changes in Arizona policy allow for treatment-in-place and transport to non-hospital healthcare facilities to be reimbursed under Medicaid. In two years, the Arizona program saved over $1 million in transport costs through treatment-in-place, providing the right care, at the right place, at the right time.

- Licensing, including recognition of specialized credentials (i.e., Community Paramedic-Certified (CP-C))
- EMS and 911 agency credentialing process
- Additional training required for additional or new credentials
- Telemedicine provider credentials, certification, and licensing, including how information will be exchanged
- Credential and information exchange across SLTT jurisdictions

Patient Integration

In addition to understanding and establishing a credentialing process for EMS and 911 agencies and other healthcare providers, integration of patient registration, information, and data exchange is also important for telemedicine. Key considerations include:

- Electronic health records (EHRs) and electronic patient care records (ePCRs) integration across platforms, including collaboration with health information exchanges (HIEs)
- Technical capabilities/limitations of 911 infrastructure for data exchange
- Patient data portion of primary care physician (PCP) and payer systems
- Patient enrollment workflow (e.g., order of operations for collecting and incorporating patient data)
- Establish policy for data ownership, storage responsibilities, and conditions of data sharing

Policy, Regulatory, and Legal Considerations

As telemedicine is a relatively new concept for EMS and 911 organizations and as related systems, requirements, and laws change, EMS and 911 organizations will need to stay on top of relevant policy, regulatory, and legal details that may affect their operations. See the previous knowledge building section for more information.

Important considerations include:

- Establish (e.g., hiring or partnering with another organization to share) legal counsel to represent the EMS or 911 organization
- Conduct a policy review of SLTT regulations and statutes
- Conduct or contract for an anti-trust review to identify unforeseen issues
- Develop and maintain compliance programs to assure program integrity with Federal and SLTT regulations and statutes

Operational and Technical Considerations

There are numerous logistical details to address in the design of a telemedicine program. Refer to the resource assessment section and associated gap analysis for more information. Major operational and technical considerations include:

- Connectivity – if or how the EMS and 911 organizations connect with other healthcare providers
- Delivery of the telemedicine platform – telemedicine purchased as a hardware/software solution, or as a service (in which another organization owns the infrastructure)
- Medical documentation – what platform will the documentation occur in and what documentation standards are necessary for proper and compliant billing
- Systems and data integration – between 911, EMS, telemedicine, and billing systems
- Hardware and software – what telemedicine equipment and associated software will be used to implement the program and integrate systems (if purchased or provided as a service)

Stakeholder Engagement Considerations

Close coordination with relevant stakeholders is critical for telemedicine program effectiveness. Realizing the benefits of telemedicine for all involved (e.g., EMS and 911 organizations, patients, and the broader healthcare community) requires understanding and cooperation. The stakeholders chapter and the associated assessment has more detail on engaging and coordinating with select groups. An additional important consideration is to determine the availability of the local EMS medical director for collaborating on a telemedicine program.

Financial Considerations

The financial aspects of designing and implementing an EMS and 911 telemedicine program are ultimately the deciding factors on whether, or how, to move forward with telemedicine. The key overarching factors in financial considerations are revenue, cost, profit, and loss. A solid business plan for a telemedicine program is essential to make associated decisions. For more detail on financial considerations, see Appendix C.

Quality Systems

Process, outcome, satisfaction, and financial measures are becoming an integral part of quality and evidence-based practice in EMS. While healthcare has used this approach for decades, EMS is just beginning to engage at this level. A comprehensive telemedicine program will leverage a series of measures to determine the value and quality of the program to its patients, providers, payers, and bottom line. Telemedicine programs can use adaptable data collection systems that enable the ability to capture the data elements necessary throughout the encounter lifecycle to ensure that the necessary Key Performance Indicators (KPIs) can be calculated.

Often, program value is defined by these metrics and financial incentives and disincentives can be applied for superior or poor performance. A comprehensive quality system will capture data, measure results, and continuously improve system or knowledge gaps upon its findings.

This continuous process (known as total quality management or TQM) along with improvement science provides a quality platform and workflow for all stakeholders that ensures reliable, sustainable, efficient, and effective clinical operations. The effective involvement of the EMS medical director in this process (including establishing associated education and training) can solidify a focus on patient safety, enhanced patient experience, and improved patient outcomes. For more information on improvement science for EMS, see https://www.ems.gov/NEMSAC-advisories-and-recommendations/2017/NEMSAC_Final_Advisory_Successful_Integration_Improvement_Science.pdf.

EMS medical directors play an important role in effective education and training programs and overseeing a continuous clinical quality improvement program with a focus on patient safety, enhanced patient experience, and improved patient outcomes.

Key Performance Indicators (KPIs)

KPIs are typically developed to measure processes and outcomes. The saying "you cannot manage what you don't measure" is an axiom held by most industries and healthcare, EMS and telemedicine are no exception.

What KPIs to measure depends on a variety of factors but in general measure a domain and domain attributes associated with the domain (domains such as clinical, operational, satisfaction, financial, etc. with attributes such as protocol compliance, task time, willingness to recommend and cost per visit, respectively). Often, there can be many attributes that describe the performance of its attached domain, but in general it is best to keep KPIs easy to interpret and gauge what's happening.

KPIs help manage the business to a standard, and the standard can be set internally, contractually, regulatorily, or through standards setting bodies. The EMS organization's ability to perform to these standards highlights effective performance and can be a market differentiator in competitive marketplaces.

In addition, KPIs can be trended using statistical process control (SPC) methodologies to help understand trends, identify normal variation and identify special causes that could be influencing the performance being measured.

Propagation of New System Services

Designing and implementing an entirely new telemedicine system may be excessively complicated, time-consuming, and expensive. Telemedicine is a new operational space for most EMS and 911 organizations, and many will not have the bandwidth to develop a new telemedicine system. However, some organizations may choose to go through such a process. The steps and considerations described above are relevant to designing a new system, yet more considerations are needed, with significant nuance and variability depending on the organization's location and decisions made on the system design. Major additional considerations include:

- New patient access points to define
- New clinicians to hire (e.g., dedicated EMS clinicians, emergency nurse practitioners, physician assistants, EMS physician residents/fellows)
- New medical direction to establish (e.g., additional medical doctor, credentialing/certification/licensing)
- Additional policy, regulatory, and legal steps

- Additional operational, technical, and training steps

- Marketing and public relations for the new system

- New revenue cycle and financial mechanisms

Follow-up Systems

Regardless of the details involved with the kind of telemedicine system an EMS or 911 organization will use, follow-up systems are important to have in place. Closing the feedback loop from EMS or 911 patient encounter to after the patient leaves EMS or 911 care is important for maintaining telemedicine value (to the patient, the EMS or 911 organization, the other healthcare providers involved, and the payers). Follow-up system considerations include:

- Data integration between EHRs and ePCRs

- Maintaining contact information with clinicians involved

- Processes to document and follow up on patient disposition

- Giving patients access to follow-up information if necessary

- Appropriate clinical handoff of the patient to their PCP or other appropriate caretaker or health program

Contracting

Direct contracting of telemedicine services may be available to EMS and 911 organizations depending on their location, existing procurement requirements, and the types of telemedicine systems desired. This option could be relatively simple to incorporate yet may be expensive to implement. A thorough cost-benefit analysis can help determine if direct contracting is a feasible option.

Program Implementation:
Explore Contracting Options

5. Telemedicine Program Sustainment and Growth

Once a telemedicine program for an EMS or 911 organization has been established, careful consideration and evaluation of key aspects of the program need to be maintained in order for the program to sustain itself and have the opportunity to grow. Leveraging the business plan is important during the design and implementation phases of the program and is equally important for sustainment and growth. Evaluating the program practices against the business plan, reengaging payers, revisiting the assessments previously completed, and examining quality improvement mechanisms are important considerations for ensuring the telemedicine program continues—and potentially grows.

Chapter 5 Key Takeaways

✓ Utilize your business plan and manage your payment sources to identify opportunities for growth.

✓ Keep track of best practices and lessons learned to aid in optimizing telemedicine program growth and sustainment.

Importance of Business Plan

No matter the form of EMS or 911 organization, the ability to balance profits and losses or generate excess funds to recapitalize, invest, or expand are things that every business must endure. A properly designed business plan will help ensure the financial and economic environment is favorable and can afford to exist and sustain itself. Jumping into telemedicine without this critical tool may find the organization struggling to recoup its investments or looking to additional revenue sources to offset losses. See the business plan section for more detail.

Management of Payment Sources

Becoming more knowledgeable of, and familiar with, the different payment sources and systems associated with telemedicine are necessary skills for EMS and 911 organizations to adopt for telemedicine program viability. As described in the stakeholders chapter, major payment sources include:

- Medicare
- State Medicaid program
- SLTT 911 agency or board
- SLTT public utility commission
- Private insurer
- Business to business contracting

Program Sustainment: Manage Payment Sources

Each source will have different requirements, recordkeeping, and types of data to maintain, so it is important to keep relationships established with appropriate organizations active. It is also important to understand the differences from a compliance and regulatory aspect associated with these different revenue sources.

Opportunities for Growth and Expansion

After a telemedicine program is established, the EMS or 911 organization may find opportunities to expand, including new telemedicine services to offer to a growing population of constituents.

- Provide new services, such as ongoing RPM, follow-up visits to patients, and community paramedicine operations
- Capitalize on economies of scale, engaging new populations to serve, such as supplementing patient visits of partner QHCPs and serving different groups of patients per different payer groups

Program Optimization and Improvement

Continual evaluation of the telemedicine program can lead to increasing effectiveness and efficiency, as well as building resilience in the program by recognizing changes, risks, and opportunities to adapt.

Program Sustainment: Plan to Optimize and Improve

- Periodic revisiting of the assessments and gap analyses described in the initiation chapter
- Measures, KPIs, dashboards
- Quantifying and refining the value proposition
- Continuously improving experience, operations, and cost per visit

Opportunities for new reimbursement for new healthcare services often are dependent upon the value proposition for patient and payers. Increasingly, health care payers want to pay for value, not volume. Healthcare payers will ask key questions:

- What is the return on investment of the new service?
- Are patient outcomes improved and how?
- Does the new service improve the health of the community?

For more information on quality improvement, see:

- NASEMSO Healthcare Quality Improvement Sites (www.nasemso.org/resources/external-resources/)
- CMS Quality Improvement Organizations (QIO) Program (http://qioprogram.org/locate-your-qio)
- Institute for Healthcare Improvement (IHI) (www.ihi.org)

Appendix A. Telemedicine References

The following are key references for telemedicine concepts, practices, and considerations that may be helpful to EMS and 911 organizations.

Federal Documents and Websites

CMS Coronavirus waivers & flexibilities (November 2020) https://www.cms.gov/about-cms/emergency-preparedness-response-operations/current-emergencies/coronavirus-waivers

COVID-19 Frequently Asked Questions on Medicare Fee-for-Service Billing (March 2021) https://www.cms.gov/files/document/03092020-covid-19-faqs-508.pdf

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MLN Booklet: Telehealth Services (March 2020) https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/TelehealthSrvcsfctsht.pdf

National EMS Advisory Council Committee Advisory: Successful Integration of Improvement Science in EMS (Accessed March 2021) https://www.ems.gov/pdf/nemsac/NEMSAC_Final_Advisory_Successful_Integration_Improvement_Science.pdf

National EMS Scope of Practice Model 2019 (February 2019)
https://www.ems.gov/pdf/National_EMS_Scope_of_Practice_Model_2019.pdf

Redirecting 911 Calls for Information & Low Acuity Medical Complaints (May 2020)
https://www.911.gov/pdf/Redirecting_911_Calls_for_Info_and_Low_Acuity_Medical_Complaints.pdf

State Medicaid & CHIP Telehealth Toolkit: COVID-19 Version (April 2020)
https://www.medicaid.gov/medicaid/benefits/downloads/medicaid-chip-telehealth-toolkit.pdf

USDA Distance Learning & Telemedicine Grants (January 2015) https://www.rd.usda.gov/programs-services/distance-learning-telemedicine-grants

Scholarly Publications

A Review of Telemedicine Business Models (April 2013) https://pubmed.ncbi.nlm.nih.gov/23540278/

Community Paramedics Treat High Acuity Conditions in the Home: a prospective observational study (April 2019) https://pubmed.ncbi.nlm.nih.gov/30948443/

Hospital at Home for the Management of COVID-19: Preliminary Experience with 63 Patients (July 2020) https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7523688/

Mobile Integrated Health Care - Community Paramedicine: A Resource for Community-Dwelling People at Risk for Needing Long-Term Care (November 2016) https://healthworkforce.ucsf.edu/publication/mobile-integrated-health-care-community-paramedicine-resource-community-dwelling-people

Providing Acute Care at Home: Community Paramedics Enhance an Advanced Illness Management Program (August 2016) https://agsjournals.onlinelibrary.wiley.com/doi/abs/10.1111/jgs.14484

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Appendix B. Telemedicine Program Checklist

The following is a summary checklist of important items to consider and progress through in the development or advancement of a telemedicine program for EMS and 911 organizations.

Pathway	Key Steps	Detail
Introduction: Understand the Value Proposition	Review important definitions	✓ Telemedicine ✓ Telehealth ✓ Distant site ✓ Originating site ✓ Live videoconferencing ✓ Store and forward ✓ Remote patient monitoring ✓ Mobile health
	Familiarize personnel with the ET3 Model	✓ Awareness of ET3 participants and NOFO awardees in region ✓ Source of clinical and operational experiences and best practices ✓ Adopt billing and payment approach for Medicaid and commercial insurers
	Define telemedicine value for your community	✓ Patients ✓ EMS system ✓ 911 system ✓ Community ✓ Overall healthcare system
Program Initiation: Knowledge Building	Take time to review and understand the uses of the numerous resources to establishing a telemedicine program	✓ Federal and SLTT Policy, Regulatory, and Legal Considerations ✓ Risks
Program Initiation: Business Plan and Assessment	Begin with the end in mind—start evaluating the business case for a program at the very beginning	✓ Understand the importance of Business Case and Business Plan
	Take advantage of available assessments and seek additional knowledge to fully conduct all appropriate assessments	✓ Identify existing assessments available
	Conduct Assessments	✓ Financial ✓ Community Needs ✓ Current Capabilities ✓ Resource
	Conduct Gap Analysis	✓ Identify gaps in assessments conducted ✓ Determine path forward to address gaps
	Develop Business Plan	✓ Executive Summary ✓ Introduction and Background ✓ Assessments ✓ Marketing ✓ Operations ✓ Financial Plan

Pathway	Key Steps		Detail
Program Initiation: Business Plan and Assessment	Develop plan to measure telemedicine program success		✓ Quality
			✓ Patient Safety
			✓ Patient Experience of Care
			✓ Utilization
			✓ Cost
			✓ Define success for the EMS or 911 organization
			✓ Measure progress – identify metrics and milestones to document each step
			✓ Patient Experience of Care
Program Stakeholders: Stakeholder Assessment	Identify your most important stakeholders and consider any additional stakeholders who are key to the success of your telemedicine program	Operations and Infrastructure	✓ QHCPs
			✓ Community healthcare systems
			✓ Alternate transport destinations
			✓ 911 PSAPs
			✓ Technology service providers
			✓ Technology manufacturers
			✓ Technology vendors
			✓ Public affairs/consumer affairs
			✓ Patient advisory and advocacy groups
		Policymakers	✓ Government officials
			✓ Governing boards, councils, and committees
			✓ State or national EMS, 911, and telemedicine trade associations
		Payers	✓ Medicare
			✓ State Medicaid program
			✓ SLTT 911 agency or board
			✓ SLTT public utility commission
			✓ Private insurers
			✓ Business-to-business contracting
			✓ Business-to-consumer billing
	Ensure that each unique stakeholder group has a unique communication approach to increase outreach effectiveness		✓ Engage relevant stakeholders
			✓ Identify advocates
			✓ Partner with influential stakeholders
	Connect aspects of the business plan to key stakeholders such as payers to ensure an effective and sustainable telemedicine program		✓ Reference the value proposition and business plan in stakeholder interactions

Pathway	Key Steps	Detail
Program Implementation: Integrate with Existing Systems	Ensure existing program infrastructure is properly considered when integrating a telemedicine program	✓ Select from existing mechanisms
		✓ Engage key stakeholders for operations
		✓ Identify credentialing and certification needs
		✓ Identify patient integration options
		✓ Identify relevant policy, regulatory, and legal considerations
		✓ Identify operational and technical considerations from assessments
		✓ Identify stakeholder engagement considerations
		✓ Identify financial considerations from business plan
	Consider what your telemedicine program key performance indicators (KPIs) are and tie them back to the business plan	✓ Identify quality systems options
		✓ Identify KPI domains (e.g., clinical, operational, satisfaction, financial)
		✓ Identify KPI domain attributes (e.g., protocol compliance, task time, willingness to recommend, and cost per visit)
		✓ Identify follow-up systems options
Program Implementation: Explore Contracting Options	Take advantage of contracting options to streamline telemedicine program operations	✓ Identify telemedicine contracting options, including potential partner organizations
		✓ Conduct cost-benefit analysis to determine contracting feasibility
Program Sustainment: Manage Payment Sources	Utilize your business plan and manage your payment sources to identify opportunities for growth	✓ Familiarize with payment sources ▪ Medicare ▪ State Medicaid program ▪ SLTT 911 agency or board ▪ SLTT public utility commission ▪ Private insurer ▪ Business to business contracting
		✓ Identify requirements, recordkeeping, and types of data to maintain per payment source
		✓ Identify compliance and regulatory details per payment source
		✓ Identify new services and new populations to serve
Program Sustainment: Plan to Optimize and Improve	Keep track of best practices and lessons learned to aid in optimizing telemedicine program growth and sustainment	✓ Revisit previous assessments and identify improvement options
		✓ Familiarize with quality improvement science and identify options

Appendix C. Financial Considerations

One of the more challenging aspects of developing a telemedicine program is maintaining its financial sustainability. The key to financial sustainability is to first understand the costs to provide these services on a per transaction and per hour basis, as well as within structured financial statements such as a profit and loss statement. This allows assessment of the various revenue sources these programs can garner and their ability to cover or exceed expenses as well as provides a foundation for budgeting, forecasting, and pro forma modeling. Understanding these concepts supports making sound business decisions and negotiations with payers to determine if the program has long-term staying power, may require a subsidy, or may not be financially feasible.

Understanding Expenses

Expenses are measured based on the costs associated with providing all aspects of a telemedicine program. There are fixed costs that do not change regardless of the business volume, there are incremental costs that change over time with volume, and there are variable costs associated with each encounter. Some of these costs are direct, meaning they are directly attributed to the program and nothing else, and some costs are indirect, such as overhead of a manager that oversees many programs in the organization. However, the time he/she spends (e.g., salary and benefits) on the telemedicine program would need to be proportionally financially allocated to the program.

Examples of these types of costs include: (note some examples could fit many definitions)

- Fixed Costs – Direct: Yearly or one-time telemedicine platform access fees
- Fixed Costs – Indirect: Building lease used to house telemedicine staff and other programs (allocated based on space)
- Variable Costs – Direct: Per transaction fee for use of telemedicine platform
- Variable Costs – Indirect: Building utilities used to house telemedicine staff and other programs (allocated based on space)
- Stair Step Costs – Direct: Net new dedicated telemedicine provider full-time employee (FTE) salary and benefits to grow the program
- Stair Step Costs – Indirect: Net new executive leader FTE added to oversee growing organization (allocated based on volume)

Expenses to Anticipate with a Telemedicine Program

Direct and indirect fixed and variable costs can support many different functions, therefore should be appropriately allocated based on the situation (allocations can have many forms: volume, hours, square footage, FTEs, etc.) The following is a list of typical expenses to consider based on a known model. Please note that some of these expenses may or may not exist for your program based on the delivery model you use (such as insourcing or outsourcing the telemedicine provider component).

Common EMS Agency Treat-in-Place Telemedicine Expenses

- Telemedicine platform (video application) fees
- Telemedicine hardware and accessories (mobile devices, cases, charging, security)

- Data integration services (CAD or ePCR)

- Mobile data access

- ePCR documentation system

- Billing services

- Quality review costs

- Data capture, analytics and reporting costs

- Patient / provider satisfaction capture and measurement costs

- Dispatch / call center costs

- Program oversight

- Insurance & risk management

- Executive overhead (finance, legal, compliance, business development, purchasing, IT)

- Other overhead (building, utilities, etc.)

- EMS response costs (personnel, equipment, vehicles, etc.)

Common Telemedicine Provider Expenses

- Telemedicine platform access, startup, usage, and subscription fees

- Provider hardware and accessories

- Mobile data or internet access (as applicable)

- Patient registration and EMR system costs

- Data integration services (registration, EMR)

- Provider salaries and benefits

- Provider credentialing

- Medical malpractice insurance

- Patient registration and billing costs

- Program management

- Executive overhead (finance, legal, compliance, purchasing, IT)

- Other overhead (call center services, finance, legal, compliance, purchasing, IT)

General Calculations

Once program expenses are approximated, determining the cost per each is the next step. This can be performed a few ways, but for a simple example, assume that the volume of encounters as X, the number of hours that the program will be available to provide services as Y, and expenses as Z (as applicable from above example). To determine cost per encounter, take Z divided by X = cost per encounter. To determine cost per hour, take Z and divide by Y = cost per hour. This is an over simplified example but is meant to illustrate the concept. Note that additional factors such as service level requirements, capacity and throughput (productivity) also need to be calculated to ensure costs of idle time or lost opportunity costs are understood. While important to understand, these topics are beyond the scope of this document and it is recommended that readers seek professional financial counsel to ensure accuracy.

Once actual costs are understood, the next step is to account for some margin of error (MOE) in the calculations as well as look at methods for developing a positive contribution margin (profit). In some cases, this process can drive from the bottom up using costs plus desired MOE and contribution margin to negotiate reimbursement. In other cases, the reimbursement is dictated or fixed, necessitating a determination of costs that are below, meet, or exceed the reimbursement available. No matter the situation, knowing if the program will perform at a loss, break-even, or gain is important to inform decision making and negotiations as well as be a guide for long-term sustainment.

Once the program started, the ability to bring cost per encounter and hour down will be significantly impacted by the ability to gain economies of scale, maximize the productivity of the program, or minimize the reliance on certain expenses. Managing these constraints will drive costs up or down and can have significant influence on the program's ability to generate some form of contribution margin.

In many startup cases, operating at a loss is an acceptable part of doing business and needs to be budgeted for as the program expands, if there is perceived or known long-term value. Value can be defined as dollars, good will, community benefit, or other factors determined by the organization. Often, startup programs such as one for telemedicine can take many months or even years to break even, become profitable, or return the intended or desired value. So long as the financial impact of the telemedicine program is understood and stakeholders agree to its investment, financial gain/loss and value, sustainability is possible.

Sources of Telemedicine Revenue

Many EMS telemedicine revenue sources, as of the publication of this document, have been enabled based on Public Health Emergency (PHE) waivers that have removed many regulatory barriers that impeded the growth of telemedicine before the COVID-19 pandemic, both at the Federal and state level. These waivers have allowed the rapid growth of telemedicine services for EMS. However, there is no guarantee that such waivers will be available after the PHE is no longer in effect. While this level of uncertainty is an unnecessary risk for some, others are planning for telemedicine services to continue with increased confidence in profitability. The following are examples of revenue opportunities that may exist into the near future:

EMS Reimbursement

- Treat in Place (TIP) via telemedicine reimbursement:
  - Available to CMS-approved ET3 Model Participants and their Partners for Medicare Fee-For-Service beneficiaries
  - According to CMS flexibilities available to eligible ambulance suppliers and providers during the COVID-19 public health emergency for Medicare Fee-For-Service beneficiaries
  - Provided by state Medicaid programs and negotiated with commercial insurers
- Business to business (B2B) payer relationships
- Direct to consumer (D2C) relationships
- Grants
- Disaster / pandemic funds
- Government subsidies or offsets

Telemedicine Provider Reimbursement

- Direct provider billing through traditional payers such as Medicare, Medicaid and commercial payers under PHE waivers
- B2B, D2C
- Grants
- Disaster / pandemic funds
- Government subsidies or offsets

In Summary

The opportunities to implement a financially sustainable telemedicine program depend on the organization's financial acumen and the expert understanding of expenses as well as revenues. Ultimately, expenses need to match revenue to break even, revenues need to exceed expenses in order to produce a contribution margin. In the event expenses exceed revenues and the program operates at a loss, it is important that such loss is understood by all involved stakeholders and is an acceptable level of risk that aligns with the program value proposition.

Appendix D. Abbreviations

ACO	Accountable care organization	IHI	Institute of Healthcare Improvement
ASC	Ambulatory surgery center	ISP	Internet service provider
CAH	Critical access hospital	IT	Information technology
CCHP	Center for Connected Health Policy	KPI	Key performance indicator
CMHC	Community mental health center	NEMSAC	National Emergency Medical Services Advisory Council
CMMI	Center for Medicare and Medicaid Innovation	NEMSIS	National Emergency Medical Services Information System
CMS	Centers for Medicare and Medicaid Services	NHTSA	National Highway Traffic Safety Administration
DHS	U.S. Department of Homeland Security	NOFO	Notice of funding opportunity
EHR	Electronic health record	PCP	Primary care physician
EMS	Emergency medical services	PFS	Physician fee schedule
ePCR	Electronic patient care record	PSAP	Public safety answering point
ESRD	End-stage renal disease	QA/QI	Quality assurance and improvement
ET3	Emergency Triage, Treat, and Transport Model	QIO	Quality improvement organizations
FCC	Federal Communications Commission	RHC	Rural health clinic
FEMA	Federal Emergency Management Agency	RPM	Remote patient monitoring
FICEMS	Federal Interagency Committee on Emergency Medical Services	SLTT	State, local, tribal, and territorial
FQHC	Federally qualified health center	SNF	Skilled nursing facility
HHS	U.S. Department of Health and Human Services	SPC	Statistical process control
HIE	Health information exchange	TIP	Treatment in place
HIPAA	Health Insurance Portability and Accountability Act	TQM	Total quality management