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National Emergency Medical Services Advisory Council
FINAL
Advisory and Recommendations

Title: **Data Manager Career Pathway and Certification**

As prepared by the Subcommittee on **Integration & Technology**

A. Executive Summary

The functions of a data manager are to promote standardization and improve data collection. Within these functions, the data manager also must make the determination of what data needs to be collected, identify the appropriate resources to obtain data, and ensure the quality of the data used. Maintained data must have methods in place to troubleshoot submission and data errors. Additional functions of a data manager include making sure that the data systems utilized for analysis are operational and providing access to agencies for the submission and use of the data. A data manager should also be able to transform the data into information and present it in different ways to varying stakeholders and audiences in a manner that is easily understood.

The National Association of State Emergency Medical Services Officials (NASEMSO) provided a data manager job description in 2017 (National Association of State EMS Offices, 2013) that clearly describes these basic functions of a data manager at the state level. The data manager plays a critical role in supporting the data lifecycle and building the foundations that make data useful in ensuring that the highest quality patient care is being provided.

The data manager helps minimize potential errors by establishing processes and policies for usage, quality assurance, quality improvement, and building trust in the data being used to make decisions across your organization. Health data management is revolutionizing the way we manage patient care by improving the quality of healthcare delivery and helping to reduce costs.

The explosive growth of the amount of out-of-hospital data offers many opportunities and with the right health data management, they can get valuable insights, improve operations, and provide better patient care.

At the same time, we face the challenge of how to keep medical information accurate, updated, and secure through the process of collecting, storing, retrieving, transferring, and protecting data. A well-designed governance strategy is necessary to quickly access the type of data you need and respond to regulatory changes with ease, which are all responsibilities of an Emergency Medical Services (EMS) data manager.

On-premises data infrastructure and storage may seem secure for storing protected health information (PHI) and other highly sensitive data, but only with regular maintenance, reliable antivirus software, encryption, and multi-factor authentication. If data are not well-protected, data leakages are hard to avoid. To keep up with data growth and healthcare regulations, we must invest in data management oversight, by creating standardized training for EMS data managers.

When health information ends up in the wrong hands, it may be used for malicious intent such as identity theft, blackmail, extortion, and other fraudulent activities. The importance and need for consistency of this position is a critical aspect of EMS activities and should have standardized requirements and functions within the EMS response, from 9-1-1, to responding agencies, to initial hospital care.

B. Recommendation Actions / Strategies

1. FICEMS works with NASEMSO and NEMSIS to establish a career pathway to allow standardized education for EMS data managers.

2. FICEMS works with NHTSA to establish a funding mechanism for EMS agencies to support the position of an EMS data manager and integrate electronic reporting.

C. Scope and Definition

The scope of this advisory is to begin the discussion and establish a curriculum for EMS Data Managers. This will involve multiple agencies and subject matter experts working together to define and build the necessary skillsets and data sources necessary to be successful in this crucial, emerging role. As more and more data are being gathered for EMS there needs to be subject matter experts who can analyze the data and turn it into information that can be utilized to ensure that the highest quality of patient care is being delivered and resources are being used correctly.

Data Manager – An individual who is responsible for empowering users with data across the EMS agency, providing a unique blend of clinical, technical, and analytical expertise. Their team will work with multiple groups within and outside of the organization to improve clinical quality, patient safety, and streamline operations. (Healthcare Information and Management Systems Society, 2020)

D. Analysis

The EMS Agenda for the Future 2050 mentions data as an important part of how EMS moves forward. For over two decades. EMS pioneers and leaders described a vision of data-driven and evidence-based systems but there is no clear pathway or training on how to arrive.

After a review of multiple EMS resources, there is a lack of standardized training for EMS data managers. Most are one-off courses or single-day sessions focusing on quality improvement. The National Fire Academy Course – Management of Emergency Medical Services has only one day of discussing data but nothing more. This is related to the fact that EMS data is a relatively new subspecialty in the EMS field. On the NASEMSO website there is a basic job description for a data manager but not a pathway on how to achieve the goal. In the NASEMSO document it is recommended to have a master's degree with one year experience in Health Data Analysis/Management, Statistics, Public Health (Epidemiology/Biostatistics Focus), Epidemiology and be a paramedic or a nurse with EMS experience. While these qualifications are a starting point there needs to be targeted education for EMS specific data analysis which can assist smaller agencies that may not have the resources or finances to employ someone with these skillsets.

EMS data is not just isolated to the electronic health record data that are gathered, there are many other places to gather and connect data to create a complete picture. The EMS Agenda for the Future states, "EMS must also collaborate closely with public safety colleagues, emergency communications systems, as well as public health, mental health and social service resources, and many other public and private organizations." (National Association of State EMS Offices, 2013)

E. Strategic Goals

1. Within two years of this advisory being approved FICEMS will gather a group of subject matter experts will be convened to engage in discussion and create the required framework and toolkit necessary for an EMS data manager career pathway and certification.

2. Within two years the established career path framework template will be used to develop a curriculum for data manager certification upon completion.

3. Within three years the curriculum and certification will begin being delivered and awarded.

4. Within four years FICEMS works to create funding for electronic reporting and data manager position support.

F. References

- Healthcare Information and Management Systems Society. (2020, November 16). Healthcare Information and Management Systems Society. Retrieved from Health Information and Technology Job Descriptions: https://www.himss.org/sites/hde/files/media/file/2021/01/11/health-it-job-descriptions.pdf

- National Association of State EMS Offices. (2013, October 3). *National Association of State EMS Offices.* Retrieved from NASEMSO Data Manager Job Description: https://nasemso.org/wp-content/uploads/NASEMSO_DataManagerJobDescription_Final.pdf

- National Fire Academy. (2023). *FEMA.* Retrieved from FEMA - United States Fire Administration: https://nfa.usfa.fema.gov/ax/syll/syllabus_r0150.pdf

- NHTSA. (2019, January). *"EMS Agenda 2050: A People-Centered Vision for the Future of Emergency Medical Services.*" ("EMS Agenda 2050 • EIIC") Retrieved from EMS.gov: https://www.ems.gov/pdf/EMS-Agenda-2050.pdf