



Emergency Medical Services - Data to Action Pre-hospital Care Reports – Improving Data Reporting and Data Quality Supports Public Health Response in New York State, 2015-2021

December 2022

Improvement highlights

Over the past decade, the New York State (NYS) Emergency Medical Services (EMS) agencies across the state have made significant progress toward increasing electronic reporting of patient pre-hospital care reports (PCRs) and improving their data quality.

- Data show that the number of EMS agencies submitting electronic PCRs (e-PCRs) more than doubled from 457 agencies (42 percent) in 2015 to 1,096 (98 percent) by the end of 2021 (Figure 1).
- This brought the percentage of e-PCRs from 83.8 percent in 2015 to nearly 100 percent by the end of 2021 (Figure 2).
- Furthermore, the quality of the data recorded on the e-PCRs has also been significantly improved through the transition from National EMS Information Systems (NEMSIS) 2.2.1 standard platform to NEMSIS 3.4.0 by January 1, 2020. This new platform further standardizes the documentation and improves data validation, increasing the ability to report incident information and patients’ care activities more accurately and timely.

Figure 1. Percentage of unique 911 EMS dispatches reported electronically, by region, New York State, 2015 and 2021

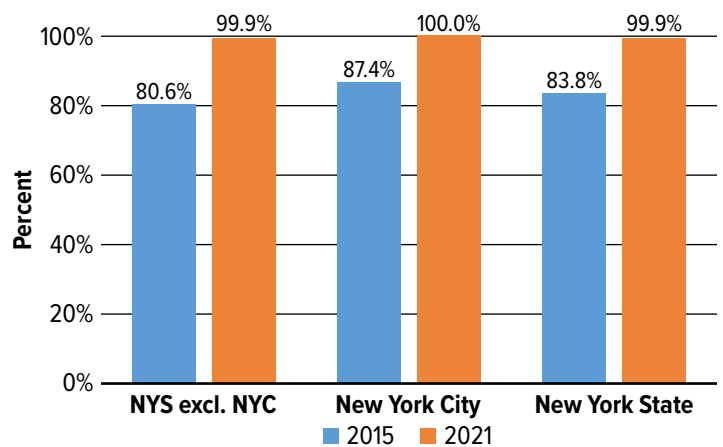
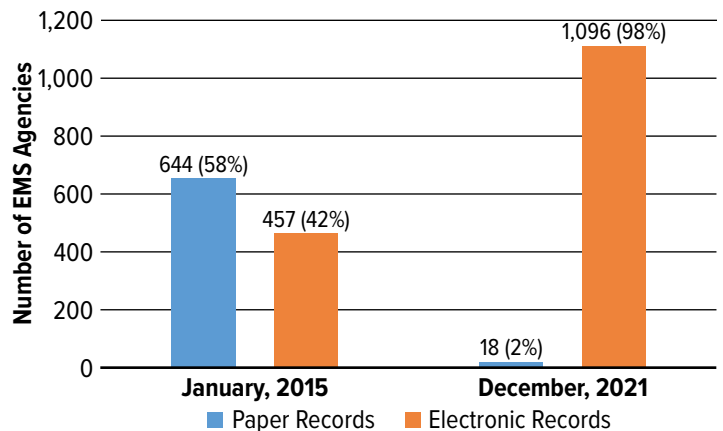


Figure 2. Patient care data reporting methodology by EMS agencies, New York State, 2015 and 2021



Data source: New York State Emergency Medical Services Data, received as of January 2022.

Better documentation quality and agency coverage of the e-PCR data have enabled NYS Department of Health (DOH) and local communities to use these data for timely reporting and responding to important adverse health outcomes and public health concerns. Specifically, improvements have allowed for efficient and effective monitoring of opioid overdoses (approximately captured by the administration of naloxone, a medication used when an overdose is suspected that may reverse the effects when administered timely). Quality e-PCR data are extremely important because these data allow the DOH the ability to fully capture naloxone encounters for all treated patients regardless of the outcome (whether they were admitted to emergency departments, released after treatment, or died on scene). This enables the DOH to have a more comprehensive view of the opioid crisis in NYS compared to relying only upon law enforcement and hospital data.

As a result of these improvements, naloxone encounter data have been incorporated into multiple data reports such as NYS County Opioid Quarterly Reports, NY Opioid Annual Reports and Opioid Data Dashboard (<https://www.health.ny.gov/statistics/opioid/>). These reports are widely used by local partners for informing harm reduction efforts and other overdose prevention activities.

These achievements in data reporting were accomplished by many factors including:

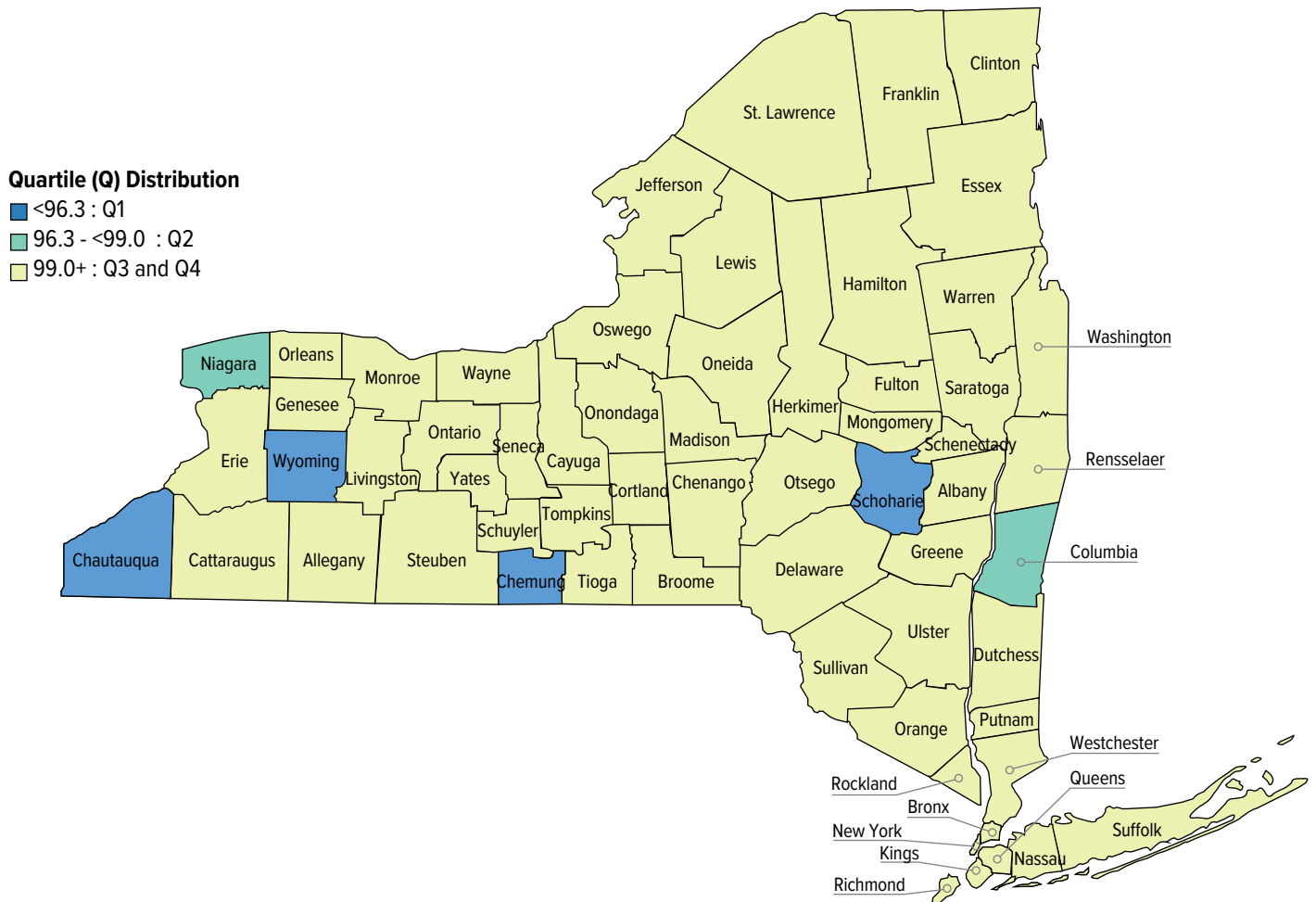
- The coordination and support from the DOH [Bureau of EMS and Trauma Systems](#) (BEMSTS) and the NYS Opioid Prevention Program.
- The collaboration and active participation from EMS agencies and responders across the state.
- The response to training programs including Regional Emergency Services Council (REMSCO) and Regional Emergency Medical Advisory Committee (REMAC) presentations led by BEMSTS to EMS agency leaders.
- The responsiveness of EMS providers in providing feedback directly to the Data and Informatics unit in BEMSTS.
- The recent implementation of an online reporting Portal developed by BEMSTS to streamline the submissions of Paper PCRs to capture medications administered and procedures performed. The Paper PCR Portal has allowed NYSDOH to capture naloxone administration encounters for the first time starting in [October 2021](#).

Reporting e-PCR at the local level and opportunity for further improvement

Over 99 percent of total EMS care is reported through e-PCR in NYS. However, this should not be interpreted as 99 percent of care provided and documented in each county. As of December 2021, 18 EMS agencies (2 percent of all agencies in NYS) were still reporting PCR using paper format (Figure 2). This potentially impacts local county coverage (Figure 3). The map shows that while most counties have 99 percent or higher, gaps in electronic coverage remain in several counties. This could lead to under-capturing of opioid overdoses (measured by naloxone administrations) in these communities.

- The counties shown in blue had the lowest electronic coverage (96.3 percent or lower).
- The four counties with the lowest electronic coverage were Chemung (90.5 percent), Schoharie (95.1 percent), Wyoming (94.9 percent), and Chautauqua (95.6 percent).

Figure 3. Percent of unique 911 EMS dispatches reported electronically, by county, New York State, 2021



Recommended Actions

The following list of recommendations is tailored to specific audiences and is not exhaustive.

New York State Health Department:

- Increase Local Health Departments (LHDs) access to e-PCR data (alerts and regular reports) via Elite Viewer and Biospatial platforms to improve monitoring response to opioid overdose and emerging public health concerns.
- Continue to provide support to local EMS agencies to increase e-PCR reporting and improve data quality.
- Continue to monitor data reporting and quality to identify and address gaps in a timely fashion.

Local Health Departments:

- Establish Data Use Agreements with the DOH to allow for data sharing on Elite Viewer.
- Establish action reports and/or alerts on Elite Viewer so that the LHDs are consistently notified on naloxone administrations in the county or jurisdiction.
- Convene and/or participate in local task forces to develop response plans to address local opioid burden.

EMS Agencies:

- Enforce timely reporting of all responses through an electronic format (e-PCR Platform or Paper PCR Portal).
- Implement quality assurance programs to validate appropriate medication administration and performed procedures.
- Ensure complete reporting of naloxone administration in the Paper PCR Portal to improve monitoring and responding to opioid overdoses.
- Transition to a full e-PCR Platform for patient care documentation when resources are available.

Regional EMS Councils:

- Present educational programming in collaboration with regional EMS program agencies and EMS conferences about the quality of data.
- Provide training about comprehensive data recording and submission to improve the quality of documentation.
- Provide EMS agencies with feedback regarding data use to monitor emerging public health concerns.

Data Source: New York State Emergency Medical Services (EMS) Data

New York State maintains an EMS patient care data repository, in which all electronic patient care (e-PCR) data are captured from across the State. A majority of NYS EMS electronic patient care data from 2015, 2016, 2017, 2018 and the first three quarters of 2019 were collected via the National EMS Information Systems (NEMSIS) 2.2.1 standard. Most EMS agencies transitioned to the NEMSIS 3.4.0 data standard in the fourth quarter of 2019, which has improved the quality of EMS data.

Suggested Citation

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