

QUALITY IMPROVEMENT NEWSLETTER



A publication from the Maine EMS Quality Improvement Committee

OXYGEN ADMINISTRATION



OVERVIEW

Oxygen is the most commonly used medication across all Maine EMS license levels. While medical evidence supports the potential benefits of oxygen administration, it also suggests that inappropriate administration or hyperoxygenation can be harmful. Maine EMS Protocols indicate that individuals with oxygen saturation levels (SpO₂) less than 94% receive supplemental oxygen. This issue of the QI Newsletter is aimed at understanding compliance with this standard. EMS providers in the study period measured oxygen saturation on 73.3% of their patients (135,338) (Figure 1). Of those



135,338 patients, 14,036 patients (10.4%) received supplemental oxygen. While a measurement was eventually taken, 61% (7,598) received supplemental oxygen prior to an SpO₂ measurement.

TAKE AWAYS:

- Oxygen saturation levels should be measured on all patients, especially those receiving supplemental oxygen therapy
- Roughly 10% of patients received oxygen prior to an oxygen saturation measurement
- Despite SpO₂ measurements over 94%, 11% of patients were still administered supplemental oxygen.

Quality improvement leaders should think about the following items:

- Is your service documenting vital signs in a timely manner?
- Are your providers measuring SpO₂ on every 911 patient?
- Are your providers documenting the vital signs appropriately in the vital sign drop downs?
- If patients who have an SpO₂ greater than 94% are administered supplemental oxygen, is that appropriately documented and justified in the narrative?

Only 38.7% (5,438) of patients had their SpO2 measured before being given supplemental oxygen. Many of those patients (4,837, 89.0%) had SpO2 values less than 94%; however, there were still 11.0% of patients with SpO2 values within normal limits that were administered supplemental oxygen. The break down of these cases can be found in Figure 2.

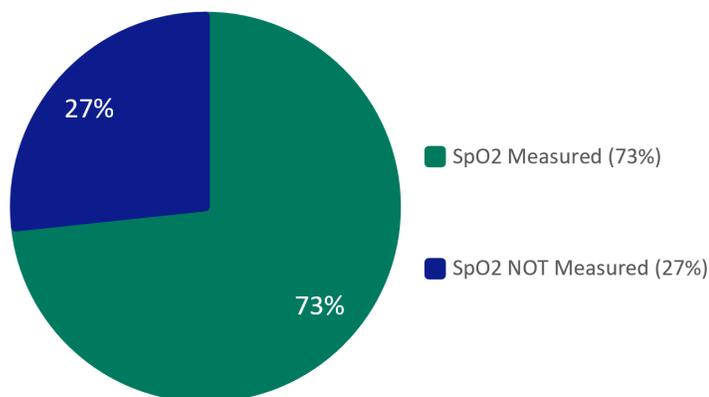


Figure 1: Breakdown of SpO2 Capture

It is the goal of the QI Committee that providers and agency quality assurance directors focus on high-quality patient care and determining what is best for the patient at the time of treatment. The Committee urges clinicians to use sound clinical judgement in the field and clearly and succinctly document their actions in the patient care report. It is suggested that quality assurance leaders work collaboratively with their respective providers and agency leadership to identify areas for improvement and strategize on continuing education and provider development.

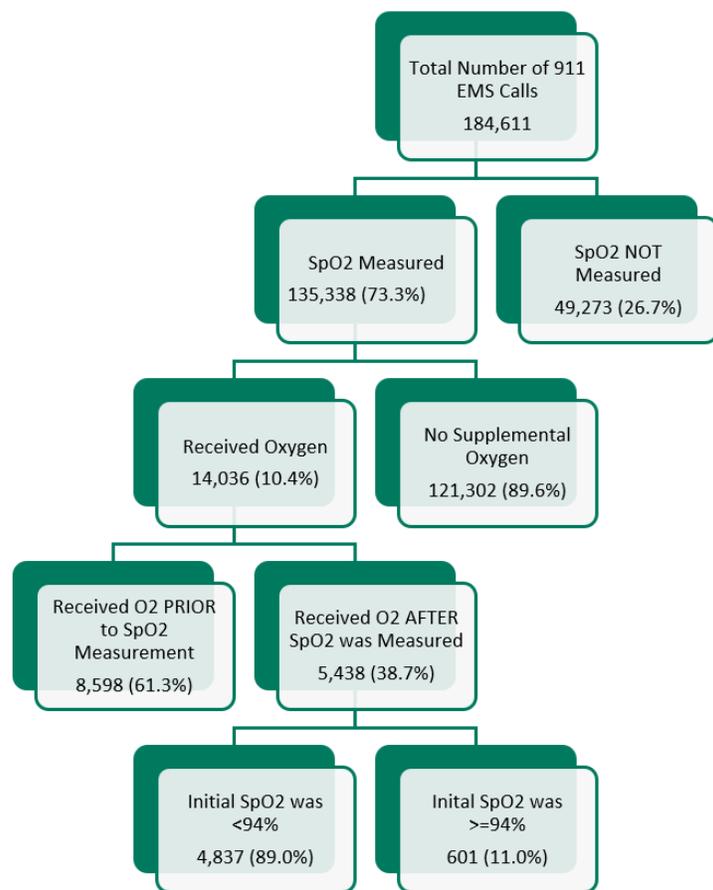


Figure 2: SpO2 Review Breakout Statistics

Notes on the Data:

The data included in this report is retrospective and originates from the 276 EMS agencies and the approximately 5,600 EMS providers in the state of Maine who provide data to the EMS Run Reporting system. This newsletter covers the months of August 2018 to July 2019.

Maine EMS Quality Improvement Committee

The Maine EMS Quality Improvement Committee is a standing committee of the Maine EMS Board and is comprised of 15 members representing the medical director's community, regions, EMS agencies, and at-large representatives. The Committee is focused on continuous quality improvement of the EMS system. As part of their charge, they review statewide, de-identified information to better understand a variety of topics affecting EMS including, but not limited to: naloxone administration, strokes, out-of-hospital cardiac arrest, airway management, and chest pain.

Disclaimer: The purpose of this newsletter is informational only and is not intended to be a comprehensive review of the entire EMS system, nor is it intended to be a scientific review. Rather, this is intended to offer a snapshot of the performance surrounding specific EMS run types.