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154. Comparison of naloxone self-administration with other pre-EMS administrators in the Real-World Examination of Naloxone for Drug Overdose Reversal (RENDOR) Project

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Background: Despite substantial expansion of community naloxone access and education, the phenomenon of naloxone self-administration remains poorly characterized. Prior work is limited and focused on a small case series of individuals with recent incarceration and heroin use, highlighting the scarcity of evidence on patients who recognize overdose symptoms and initiate self-reversal. This analysis leverages data from the Real-World Examination of Naloxone for Drug Overdose Reversal (RENDOR) Project to describe self-administration cases, evaluating demographic variation, dosing practices, indications for use, treatment response, and transport disposition.

Methods: The Toxicology Investigators Consortium (ToxIC) RENDOR project is an ongoing, multisite observational study that captures standardized clinical histories on patients experiencing a suspected opioid overdose in the prehospital setting. Data elements include incident location, patient demographics, naloxone administrator (pre-EMS [self, laypeople, non-medical first responders, and community/ social services workers] vs. EMS), indications for administration, treatment response, and transport disposition. This analysis aimed to compare differences between patient self-administration of naloxone and other pre-EMS naloxone administrators in the setting of suspected opioid overdose. Bivariate analyses investigated significant differences in self versus non-self-naloxone administration using R (v.4.5.5).

Results: Among 1,775 suspected opioid overdose cases who received naloxone before EMS arrival between June 2024 and March 2026, 20 (1.1%) involved self-administration. Cases with self-administration were older (45 vs. 40 years) and occurred more frequently in private settings, such as home/ apartments (60.0% vs. 27.5%, p = 0.003). Among patients who received their initial naloxone dose intranasally only (n = 1638), self-administrators received a higher total dose than non-self-administrators (6.0 mg vs. 4.0 mg). Self-administrators commonly reported recognition of overdose-related symptoms (18/20 [90.0%] vs. 192/1,755 [10.9%], p < 0.001), though these were often nonspecific. Furthermore, cases with self-administration demonstrated a higher frequency of

precipitated opioid withdrawal compared with non-self-administered cases (16/20 [80.0%] vs. 351/1,755 [20.0%], $p < 0.001$). Transportation to a hospital by EMS occurred frequently in both groups (95.0% vs. 79.3%), with relatively low rates of transport refusal or elopement in both cohorts.

Conclusions: Cases involving naloxone self-administration were rare and frequently occurred in private settings. These cases demonstrated patient recognition of overdose-related symptoms and were also associated with both higher total intranasal naloxone dosing and incidence of precipitated opioid withdrawal. Despite concerns that acute withdrawal may contribute to EMS transport refusals, rates of refusal and elopement were low. These findings suggest that patients who self-administer naloxone represent a distinct subset of overdose patients characterized by perceived overdose symptoms, different dosing patterns, and care-seeking behavior, underscoring the need for further investigation into barriers to timely intervention and patterns of prehospital naloxone use.