Introduction: The addition of computerized physician order entry (CPOE) to Emergency Departments in recent years has led to speculation over potential benefits and pitfalls. Recent studies have shown benefits to CPOE, though there lacks sufficient evidence on how it could change physician behaviour. Physician practices are known to be difficult to change, with getting evidence into daily practice being the main challenge of knowledge translation. Our study aimed to determine if well-designed electronic order sets for CPOE improved MD practices. Methods: The Calgary Zone Pain Management in the Emergency Department Working Group relied on a GRADE-based literature review for identifying best practices for analgesia and anetmetrics, resulting in soft changes to the dedicated analgesia and anetmetric electronic order set noting working group preference, and emphasizing hydromorphone over morphine, as well as 4 mg ondansetron over 8 mg. The new electronic order set was started in the only Calgary Region order entry system on December 11th, 2014. Data was collected from July 2014 - May 2015. A Yates chi-squared analysis was completed on all orders in a category, as well as the subgroups of ED staff and residents, and orders placed using the new order set. Results: A total of 100460 orders were analyzed. The use of hydromorphone increased significantly across all 4 EDs. IV hydromorphone use increased (5.82% of all opioid orders up to 26.93%, \( P < 0.0001 \)) with a reciprocal decline in IV morphine (67.81% of all opioid orders down to 46.56%, \( P < 0.0001 \)). Similar effects were observed with ondansetron 4 mg IV orders increasing (1.37% of all ondansetron orders to 18.64%, \( P < 0.0001 \)) with a decrease in 8 mg dosing (15.75% of all ondansetron orders to 7.23%, \( P < 0.0001 \)). These results were replicated to a lesser degree in the non-ED staff and non-order set subgroups. Implementation of the new order set resulted in an increase of its use (37.64% of all ondansetron orders to 26%; \( P < 0.0001 \)). Finally, a cost-savings analysis was completed showing a projected annual savings of $185,676.52 on medications alone. Conclusion: This data supports the manipulation of electronic order sets to help shape physician behaviour towards best practices. This provides another strong argument towards the benefits of CPOE, and can help maintain best practices in Emergency Medicine. Keywords: analgesia, electronic order sets, knowledge translation

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A portrait of rural pre-hospital services in the province of Quebec
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Introduction: Rural emergency departments (EDs) are important safety nets for 20% of Canadian citizens. In Quebec, the province’s 26 rural EDs treat an average of 19,000 patients/year and are on average 300 km from levels 1 and 2 trauma centers. These distances signify that Emergency Medical Services (EMS) play a considerable role in the care of rural patients. EMS in Quebec province are private local services. There are no published reports on EMS in rural Quebec. As part of a larger study on rural emergency care, this descriptive study aimed at offering a comprehensive portrait of EMS. Methods: We conducted semi-structured interviews with managers of all paramedic services in rural Quebec. Interview questions focused on number of transports, training, availability of telemetry, GPS technologies, and work schedules. Results: Fifty managers of the 51 private companies serving the 26 rural EDs in Quebec were interviewed (response rate 98%). All were primary care paramedics (PCP). In 2010, EMS transported 40,671 patients, with 10,228 emergency transports to the rural EDs. A total of 7,956 inter-facility transfers were conducted, 1499 of them emergency. Each ED required between 88 and 700 inter-facility transfers. A total of 60% (n = 31/51) had GPS technology, only 25% (n = 13/51) had telemetry features. Work schedules varied with 13% (n = 7/51) of companies offering shifts of less than 12 hours, 28% (n = 14/51) 24/7 weekly shifts, and 56% (n = 29/51) a combination. Conclusion: This is the first study to describe rural EMS in Quebec. The finding that Quebec’s rural EDs are served by 51 privately-owned companies is unique in Canada. The considerable number of EMS transports, including inter-facility transfers, may reflect lack of local resources in rural EDs, the vulnerable population served, or the increased trauma risk in rural areas. Future studies should examine inter-facility transport reasons, costs, times and adequate training/scope of EMS practice. Keywords: rural emergency departments, emergency medical services (EMS), transport