

ELECTRONIC SELECTION OF EMS DESTINATION TO ENHANCE CAPACITY AND FLOW MANAGEMENT



In *Electronic Selection of Emergency Medical Services (EMS) Destination to Enhance Capacity and Flow Management*, the teams at three hospitals from Albert Health Services, Calgary Health Region used a web based program that analyzes numerous parameters of capacity and acuity in all Calgary ED's. The analysis provides visual cues for where patients can be off-loaded quickly and safely. Using this approach, the three hospitals collectively achieved a reduction in the number of times ambulances had to be redirected from 102 times to 38 times over a 9 week period. This saved close to 70 more people from the consequences of being redirected before reaching an emergency department, presenting a reduction of 63%.

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| Purpose: | There are increases in EMS demand for increasingly limited ED capacity. The result has been over demand for the limited ED spaces, increasing the number of site avoidances, increasing off load time for EMS, and increasing number of critical EMS low capacity alerts due to reduced EMS units on the street. |
| Context: | Regional Emergency Patient Access and Coordination (REPAC) is a real time web based program that analyzes numerous parameters of capacity and acuity in all Calgary ED's. This analysis creates a green/yellow (favorable) or orange/red (unfavorable) status for each department and then prioritizes to which site the next EMS patient should be transported to. |

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| Resources: | Operating \$: ___6500.00_____ FTEs: ___0.1_____ |
| Source of resource: | <input type="checkbox"/> <i>In kind</i> contributions from the organization <input checked="" type="checkbox"/> Dedicated internal funding <input type="checkbox"/> External funding (example grant, Ministry etc.) |
| Population group: | EMS patients. |
| Patient flow entry and end points: | EMS contact to EMS off load at the ED's. |
| Description/approach: | REPAC is a locally developed web based program that uses real time electronic tracking information from all ED's for analysis. |
| Tools and tactics: | Local experts were used to define the criteria and data used to determine a site status and includes patient volume, acuity, wait times, expected patients arriving by EMS, and number of admitted patients being held in the ED's |
| Measurement approach: | Equivalent nine week periods pre and post implementation were compared. Statistics including total ED visits, total EMS transports, CTAS acuity of visits and transports, and destination distribution of visits and transports were analyzed to determine equivalency of time periods. |
| Impact/evaluation: | Total time in favorable status improved regionally from 53.5% to 69.4% ($p < .0001$). All three individual sites noted improvement: FMC (48.8% to 63.4%), RGH (55.8% to 75.8%), and PLC (55.9% to 68.9%). All were significant ($p < .0001$). Total EMS site avoidances decreased regionally from 102 (95% CI = (83,124)) to 38 (95% CI=(27,52)), with improvement being observed on all sites. Individual site improvements were as follows: FMC 72 to 30, RGH 20 to 4, and PLC 10 to 4. |
| Observation/Discussion: | There was some and continues to be hesitancy from EMS to abide by the destination assigned to them (which may take them away from their nearest geographical location.) It is vital to show them that diversions, and ultimately EMS off load times are improved with the new destination policies. |
| Critical success factors/lessons: | Each site needs to have an electronic tracking system that data can be pulled real time for analysis. EMS needs to be on board and have access to the same information, as well as be able to enter data on inbound EMS units to each site in real time. There needs to be local IT expertise to develop the website and analysis tool. |
| Limiting factors: | Ongoing limitations to funding limits the extent to which REPAC can expand its functionality. From a demand modifying tool, it may be possible to expand destination policy based on capacity to the phone-in Health Information System (Health Link) when patients are directed to the ED. There is also some discussion on whether to make this information accessible to the general public. |