More than just a postal code: Current Patterns of Pediatric Emergency Department Visits within Hamilton

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Outline

• Research Question
• Background
• Hypothesis
• Methods
• Results
• Limitations
• Discussion
Research Question

Are there differences between pediatric patients who visit MUMC vs. general EDs in Hamilton?
Background

• Many options for seeking EM care in Hamilton
• Many barriers to accessing healthcare (transportation, cost, lower SES)
• Most pediatric patients are brought to the ED by caregivers and not by EMS
• Many factors determine which ED caregivers choose
Background

• Most “vulnerable” areas in Hamilton are centered around general EDs and further away from MUMC

• The Code Red Project of Hamilton determined these vulnerable areas by showing a link between certain postal codes and poorer health outcomes
Percentage of Children Under Age 18 Living Below Poverty Line

Hamilton

Lowest 20%
Middle 20%
Highest 20%
No Data

Created By: Patrick DeLuca, MA, GIS/P
February 24, 2010

McMaster University
Department of Family Medicine
Hypothesis

Pediatric patients from postal code areas linked to lower SES are more likely to access generalized emergency departments.
Methods

- **P:** <18 years old, n=4053 sites
  - 4 sites- HGH, Jurv, SJH, MUMC
  - 6 month period (Jan-Jun 2015)
- **I:** Retrospective chart review
- **C:** age, gender, postal code, CTAS level, chief complaint, time of registration
- **O:** Were there any differences in the pediatric patients across 4 sites?
Gender Distribution

- HGH
- JURV
- SJH
- MUMC

Male
Female
Age Distribution

<table>
<thead>
<tr>
<th></th>
<th>&lt;1 yr</th>
<th>2-4 yrs</th>
<th>5-12 yrs</th>
<th>&gt;13 yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>HGH</td>
<td>10.7</td>
<td></td>
<td>45.8</td>
<td></td>
</tr>
<tr>
<td>JURV</td>
<td>8.9</td>
<td>8.9</td>
<td>45.5</td>
<td></td>
</tr>
<tr>
<td>ST. JOE'S</td>
<td>11.1</td>
<td>11.1</td>
<td>61</td>
<td></td>
</tr>
<tr>
<td>MUMC</td>
<td>29</td>
<td>17.5</td>
<td>17.5</td>
<td>29</td>
</tr>
</tbody>
</table>
Time Distribution

- **HGH**: 15.5
- **JURV**: 12.8
- **ST. JOE'S**: 14.5
- **MUMC**: 9.4

Legend:
- Yellow: 0800-1600
- Orange: 1600-0000
- Red: 0000-0800
CHIEF COMPLAINT
St. Joseph’s

Chief Complaint

- MSK, 26.5
- Infectious, 19.2
- MSK, 4.86
- Psych, 12.3
- CNS, 4.86
- Respiratory, 3.07
- Cardiac, 2.49
- Derm, 3.26
- GU/Gyn, 5.75
- ENT, 2.17
- Other, 6.46
- Tox, 1.6
McMaster (MUMC)

Chief Complaint

- Infectious, 31.7%
- MSK, 15.6%
- GI, 14.9%
- CNS, 9.15%
- Psych, 4.51%
- GU/Gyn, 4.15%
- Derm, 7.68%
- ENT, 2.07%
- Other, 5.24%
- Tox, 0%
Summary of Results

- **Age**: MUMC sees younger kids
- **Time**: MUMC sees a lower proportion of kids overnight
- **CTAS**: HGH sees highest % of CTAS 1
- **Postal Code**: MUMC doesn’t see many patients from the downtown core
  - Higher SES areas bypass the downtown core hospitals
Discussion

• Why are there differences in age distribution?
  – Perception that younger kids should be seen by a pediatrician

• Why is there a difference in time?
  – Overnight, patients go to the closest hospital (more urgent)

• Why is HGH seeing the most CTAS 1?
  – Lower SES areas centered around HGH, poorer health outcomes (Ex/ SIDS)

• Why does MUMC catchment area follow SES trends?
  – Cost, access to transportation, education/awareness of Pediatric centers
Discussion

• Increasing trend towards specialized centers (STEMI, strokes, peds etc.)
• Controversy exists regarding Pediatric EDs vs. generalized
• Everyone is well trained
  – Concentrate pediatric expertise?
  – All EDs appropriately equipped to manage sick pediatric patients?
Limitations

• Per ED visit, not per patient
  – multiple visits from same patient not accounted for

• Doesn’t account for transfers between hospitals

• Motivation for visit was not assessed
  – Survey would better capture caregivers’ reasons

• Limited/no evidence available regarding quality of care at Pediatric vs Generalized EDs
Future Directions

• Assess motivation for visit
  – Future projects such as surveys, interviews

• Implications for training
  – Residents are seeing less pediatrics in generalized EDs

• Change in Emergency Medicine Model
  – Decentralization of pediatric care
  – Planning for pediatric emergency infrastructure
    • Targeting vulnerable populations
Thank you!

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References


QUESTIONS?