Recent Trends in Child and Youth Pedestrian Emergency Department Visits by Socioeconomic Status in Ontario, Canada

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BACKGROUND

- Rates of death from unintentional injury decreased from 1971 to 1996
- Rates of death higher in children from lower income groups
- Inequality between income groups decreased over time

Fig. 1: Rates of death from unintentional injury per 100 000 children aged 14 years and less.

Reducing inequities in health is a policy goal in Canada.
OBJECTIVE

• To examine the relationship between emergency department (ED) visits due to pedestrian motor vehicle collisions (PMVC) among children 0-19 years and socioeconomic income status in Ontario, Canada between 2008-2015
METHODS

• **Outcome**
  - Age adjusted PMVC rates per 100,000 children
  - Population-based ED visits from ICES

• **Numerator**
  - PMVC visits - National Ambulatory Care Reporting System (NACRS)

• **Denominator**
  - OHIP Eligible Registered Population Database
METHODS: Exposure

• Neighbourhood socioeconomic quintiles derived from the Statistics Canada Postal Code Conversion File 2011
  • Quintile 1 = Lowest income quintile
  • Quintile 5 = Highest income quintile
Statistical Analysis

• Age adjusted ED visit rates were calculated using Ontario census data

• Poisson regression was used to model PMVC rates by year, age and income quintile

• Incidence rate ratios and 95% confidence intervals were calculated
RESULTS

• Total of 11,187 ED visits due to PMVC from 2008 to 2015

• ED visit characteristics
  
  • Males (54%)
  
  • 15-19 years old (51%)
    0-14 years old (26%)
  
  • Urban areas (73%), followed by suburban areas (20%)
  
  • Lowest income quintile: 3,022
    Highest income quintile: 1,592
RESULTS

- Number of ED visits have decreased overall by 18%
## RESULTS

### Table 2: Adjusted incident rate ratios (IRR) of child PMVC and 95% confidence intervals (CI)

<table>
<thead>
<tr>
<th>Outcome: PMVC</th>
<th>Adjusted IRR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year (2008-2015)</td>
<td>1.00 (0.99, 1.00)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>0-4</td>
<td>0.19 (0.18, 0.20)</td>
</tr>
<tr>
<td>5-9</td>
<td>0.29 (0.28, 0.30)</td>
</tr>
<tr>
<td>10-14</td>
<td>0.52 (0.50, 0.54)</td>
</tr>
<tr>
<td>15-19</td>
<td>Reference</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Income Quintiles</th>
<th>Adjusted IRR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Low)</td>
<td>Reference</td>
</tr>
<tr>
<td>2</td>
<td>0.85 (0.82, 0.89)</td>
</tr>
<tr>
<td>3</td>
<td>0.72 (0.69, 0.75)</td>
</tr>
<tr>
<td>4</td>
<td>0.62 (0.60, 0.65)</td>
</tr>
<tr>
<td>5 (High)</td>
<td>0.52 (0.50, 0.55)</td>
</tr>
</tbody>
</table>
DISCUSSION

• There were significant differences in ED visits between the highest and lowest income quantiles.

• The frequency of ED visits decreased over time, however there were no significant changes in age-adjusted rates by year.

• Income disparities in the rates of ED visits in Ontario for child PMVC visits have persisted from 2008 to 2015.
DISCUSSION

• Individual level factors related to income are difficult to modify
• Less safe traffic environments in lower income areas may be strong contributors to the inequities in PMVC
• Findings support our previous research that shows that the traffic environment is less safe in poorer areas
CONCLUSIONS

• Income disparities in child PMVC still remain prevalent despite a focus of Canadian health policy to reduce socioeconomic disparities in health

• Need to improve traffic built environment in lower income areas, to equalize income disparities in child pedestrian injuries
Kids in poorer areas of Ontario face greater risk of getting hit by cars, according to study

Researchers examined data on emergency department stats from 2006 to 2015. The Canadian Press, 05/30/2019 02:55 PM ET | Last Updated: May 9

New study suggests children in poorer areas of Ontario face greater risk of getting hit by vehicles than those in wealthier areas. (GEO)

Kids in poorer areas of Ontario face greater risk of getting hit by cars: study

Study finds kids in poorer areas of Ontario face greater risk of getting hit by cars

Kids in poorer areas of Ontario face greater risk of getting hit by cars. Study suggests