Spatial epidemiology of summer trauma in Scott County, IA: Use of GIS to identify trauma incidence in urban and rural areas

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SPATIAL EPIDEMIOLOGY OF SUMMER TRAUMA IN SCOTT COUNTY, IA
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METHODS
The following data was collected from eligible patients:
• Date and time of arrival at trauma center
• Mechanism of injury (MOI)
• Race
• Age
• Whether patient arrived at the trauma center by ambulance
• Whether patient was injured in a MVC, fall, or other MOI

RESULTS and DELIVERABLE
Table 1. Frequency table of trauma alert injury nature

<table>
<thead>
<tr>
<th>Nature</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traffic/Transportation Accidents</td>
<td>58</td>
</tr>
<tr>
<td>Falls</td>
<td>13</td>
</tr>
<tr>
<td>Stab / Gunshot / Penetrating Trauma</td>
<td>5</td>
</tr>
<tr>
<td>Assault / Sexual Assault</td>
<td>3</td>
</tr>
<tr>
<td>Hemorrhage / Lacerations</td>
<td>2</td>
</tr>
<tr>
<td>Unconscious / Near Fainting</td>
<td>2</td>
</tr>
<tr>
<td>Psychiatric / Abnormal Behavior / Suicide Attempt</td>
<td>2</td>
</tr>
<tr>
<td>Traumatic Injury (specific)</td>
<td>2</td>
</tr>
<tr>
<td>Burns (scalds) / Explosion</td>
<td>1</td>
</tr>
<tr>
<td>Cardiac / Respiratory Arrest / Death - Hanging</td>
<td>1</td>
</tr>
<tr>
<td>Interfacility Transfer / Evaluation</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>96</td>
</tr>
</tbody>
</table>

TABLE 1. Trauma Alert Injury Nature

DISCUSSION and NEXT STEPS
Further steps for research include:
• Establishing a full and complete data set over the course of an entire calendar year (or two)
• A more thorough analysis of variables involved (i.e. plotting falls, MVCs, shootings, stabbings, all on different maps)
• An analysis of trauma alert patient outcomes
• Using the same process to analyze other adverse health events in Scott County

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REFERENCES