BACKGROUND

- Emergency department crowding is an increasing public health crisis in the U.S. and associated with negative outcomes, such as poor quality care, medical errors, inpatient complications, and higher mortality.
- Over the past decade median ED lengths of stay have increased resulting in reductions in patient satisfaction and quality of care.

OBJECTIVES

- We conducted a systematic review of the literature to compare the effectiveness of ED-based interventions reporting comparative data on length of stay.

METHODS

- A systematic review using five databases from 1982 to 2013.
- Search terms including “Emergency Department”, “Crowding”, “length of stay”, and “Intervention”.
- Study inclusion was reviewed by two reviewers - disagreement was resolved by consensus.
- Data were extracted using a standardized data extraction form.

RESULTS

- 43 unique studies included.
- 41 studies were single-center studies.
- Annual visit volume ranged from 19-87K.
- 20 studies were time series.
- 10 studies were quasi-experimental before & after.
- 7 studies were randomized controlled trials.
- 3 studies were case control studies.
- 3 studies used both mixed methods.

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Studies</th>
<th>Decreased LOS</th>
<th>Range for Decrease LOS (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Process</td>
<td>11 (26%)</td>
<td>9/11</td>
<td>10-116</td>
</tr>
<tr>
<td>Triage</td>
<td>9 (21%)</td>
<td>6/9</td>
<td>12-83</td>
</tr>
<tr>
<td>Point of Care</td>
<td>7 (17%)</td>
<td>5/7</td>
<td>8-114</td>
</tr>
<tr>
<td>Fast Track</td>
<td>6 (14%)</td>
<td>6/6</td>
<td>13-74</td>
</tr>
<tr>
<td>Extra Provider</td>
<td>5 (12%)</td>
<td>3/5</td>
<td>7-125</td>
</tr>
<tr>
<td>Other</td>
<td>5 (12%)</td>
<td>5/5</td>
<td>11-47</td>
</tr>
</tbody>
</table>

DISCLOSURES

- Pines – Funded by RWJF / Urgent Matters.

CONCLUSIONS

- Interventions to improve crowding in the ED have mostly been tested in single sites.
- The most common intervention is implementing operational process changes.
- Adding extra providers, implementing operational process changes and using point of care testing have the greatest observed impact on length of stay.
- Additional research is necessary to compare the effectiveness of interventions across settings.