Greater Digital Patient Engagement Leads to Decreased Emergency Department Visits After Total Joint Arthroplasty

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Introduction

- Medicine has become a challenging environment particularly given the COVID-19 pandemic.
- The demand for remote perioperative patient engagement and surveillance is greater now more than ever to improve healthcare value, patient satisfaction, and patient safety.
- Emergency department (ED) encounters add burden to the healthcare system and strategies to eliminate unnecessary visits need to be prioritized.
- A digital patient engagement platform is used for total joint arthroplasty (TJA) patients at our institution in which patients can view educational videos and communicate with their surgeons.
- This study assesses the patient engagement through an app-based program as it relates to ED visits.

Methods

- We retrospectively reviewed patients undergoing primary, elective unilateral TKA between January 2019 to March 2020.
- 995 TJA patients were given the opportunity to use the platform.
- 775 (78%) elected to utilize the application.
- Patient engagement metrics on the application and patient-reported ED visit frequency were examined.
- Patient-reported data collected using the application was compared to ED visit incidence identified by the institutional database.

Results

- On average, patients not requiring an ED visit used the app 10 days longer.
- The average number of videos viewed was also greater for this group, particularly postoperatively (80 vs. 32), as was the number of messages sent from patient to provider (90.3 vs. 53.3).
- Interestingly, 5.4% of patients self-reported an ED visit otherwise missed by surveillance alone.
- Overall, 7.7% of patients not identified as having a post-acute unscheduled visit were seen at an urgent care facility.
- Only 3.5% of patients visiting the ED required an overnight stay.

Discussion

- We observed less ED visits when patients were more engaged in the perioperative digital platform.
- Opportunities to identify unscheduled visits were also realized.
- Low admissions from the ED underscore the opportunity for both improved patient care and decreased healthcare expenditure by optimizing patient engagement alternatives.

Table 1.

<table>
<thead>
<tr>
<th>Non-ED Visit Required</th>
<th>ED Visit Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of patients</td>
<td>98%</td>
</tr>
<tr>
<td>Length of use</td>
<td>10 day longer</td>
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<tr>
<td></td>
<td>than ED visit</td>
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<tr>
<td></td>
<td>required group</td>
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Self reported ED visits missed by regular surveillance (non-app use)

- 5.4% of total app user with ED visits required

ED visits requiring an overnight stay

- 3.5% of total app user with ED visits required

References