Development & Implementation of a Standardized ED Handover Tool

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Handovers in the Emergency Department are a high risk area for breakdown in:

• team communication
• discontinuity of patients’ care plans
• potential medical errors
LOCAL PROBLEM

Active ED Patients

75% had verbal handover communication
50% had electronic written communication

Referred/Admitted Patients

44% had verbal handover communication
12% had electronic written communication
OBJECTIVES

• Develop standardized ED handover tool that is sensitive to local culture & environment

• Implement handover tool to increase frequency of adequate physician handover during overnight shift change by 50% in 4 months
METHODS

- Literature Review
- Stakeholder Focus Groups
- Solution Design
- Implementation
- Measure

METHODS

Published Best Practices

Identified Crucial Components of handover in our local ED, specifically for 2 unique populations physically in the ED:

“ED-VITAL”
Patients under active ED care

“ED-VSA”
Patients under care of Consultants

Inter-professional Focus Groups

Local Observational Data
### ED-VITAL: Handover Tool for Patients Under E.D. Care

| Entity (I.D.) | • age / name / gender  
|              | • ED location 
|              | • home/living situation 
|              | • mode of arrival 
|              | • relevant PMHx |

| Diagnosis (working) | • chief complaint  
|                    | • diagnosis (confirmed or working)  
|                    | • main issue(s) |

| Vitals / Stability | • abnormal vitals to be aware of  
|                   | • overall clinical stability 
|                   | • “sick” vs “not sick”  
|                   | • anticipated resuscitative issues  
|                   | • code status |

| Investigations | • pertinent positive/negative test results  
|               | • what tests are still pending results 
|               | • what tests are ordered still waiting to be done  
|               | • “what are you looking for” |

| Treatments | • what orders and treatments have been given  
|           | • common issues:  
|           |   ➢ fluids  
|           |   ➢ pain & anti-emetics  
|           |   ➢ antibiotics  
|           |   ➢ regular home meds, etc. |

| Actions | • concise list of “to-do” action items needed from next MD  
|        | • common items:  
|        |   ➢ full clinical reassessment  
|        |   ➢ check specific investigations & reports  
|        |   ➢ walk test  
|        |   ➢ communicate with consultants / families |

| Logistics / Last Items | • what is patient’s baseline home status (e.g. ambulation, home supports, etc.)  
|                        | • ongoing orders (e.g. pain, antiemetic, etc.)  
|                        | • documents (e.g. consult forms filled, CCAC referrals, discharge prescriptions, etc.)  
|                        | • communication:  
|                        |   ➢ patient & bedside RN knows plan  
|                        |   ➢ family, consultants, GPs, etc. as appropriate |

### ED-VSA: Handover Tool for Patients Referred / Admitted, but still in E.D.

| Entity (I.D.) | • age / name / gender  
|              | • ED location 
|              | • relevant PMHx |

| Diagnosis (working) | • diagnosis (confirmed or working)  
|                    | • main issue(s) |

| Vitals / Stability | • abnormal vitals to be aware of overall clinical stability  
|                   | • “sick” vs “not sick”  
|                   | • code status |

| Service(s) | • which consultants are involved  
|           | • seen vs pending to be seen vs admitted |

| Actions | • anticipated actions that may be needed |

### ED-VITAL: Example (Sticky Note)

82 yr old who lives alone in a RH, brought in by EMS after mechanical fall. PMHx of TN/DM2/UTIs. Clinically isolated soft tissue injury L hip, no other medical concerns. Xrays / BW / ECG normal. Pain improved w/Tyl+dilaudid. PLAN: check urine dip, walk test, GEM assessment. Can D/C home if all ok, Rx on chart.

### ED-VSA: Example (Sticky Note)

82 yr old from NH presenting with septic shock, ?urosepsis. Full code. Responded to 2L NS and empiric antibiotics. BP now 100 systolic. Internal Med accepted in consult, but may be delayed x1hr to see. Please keep an eye on patient, if worse consider pressors and ICU.
Implementation Phase:

Education Sessions

Cognitive Aids (Pocket Cards, Posters, etc)

Electronic “Sticky Note”

End-user Feedback
<table>
<thead>
<tr>
<th></th>
<th>Patients physically in ED at time of Handover</th>
<th>Patients who were actually handed over</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-intervention Period</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In Active ED Care</td>
<td>57</td>
<td>42</td>
</tr>
<tr>
<td>Referred / Admitted</td>
<td>112</td>
<td>51</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>169</strong></td>
<td><strong>93</strong></td>
</tr>
<tr>
<td>Post-intervention Period</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In Active ED Care</td>
<td>215</td>
<td>192</td>
</tr>
<tr>
<td>Referred / Admitted</td>
<td>420</td>
<td>222</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>635</strong></td>
<td><strong>414</strong></td>
</tr>
<tr>
<td><strong>Total Patients</strong></td>
<td><strong>804</strong></td>
<td><strong>507</strong></td>
</tr>
</tbody>
</table>
Improvement Phases

PDSA #1
- Staff Education
- Resident Education
- Handover Tools: Pocket Cards, Posters

PDSA #2
- End-User Survey
- Physician Feedback
- Revised Pocket Card

PDSA #3
- Policy Change for MRP of Referred Patients
Percentage of Patients Who Were Adequately* Handed Over at Midnight Shift Change

* Adequate handover defined as verbally communicating at least 50% of Handover components, or entering an electronic note.
E-Notes on All Patients physically in ED

- PDSA-1: 19%
- PDSA-2: 47%
- PDSA-3: 54%

Session % vs. Median %

1min00sec ...to... 1min17sec
## End-User Feedback

<table>
<thead>
<tr>
<th>Physician Role</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resident</td>
<td>Helps learn what information is crucial in Emergency Medicine handovers.</td>
</tr>
<tr>
<td>Receiving Handover</td>
<td>Very helpful to keep the handover conversation focused on concise communication.</td>
</tr>
<tr>
<td></td>
<td>I would like a simple pocket card without the details that can be used to guide the handover. Leave the details in a teaching tool.</td>
</tr>
<tr>
<td></td>
<td>I especially like the prompt for Treatments and Actions – it brings the patient into the conversation.</td>
</tr>
<tr>
<td>Delivering Handover</td>
<td>It’s a good reminder to write a Sticky Note, especially for referred patients.</td>
</tr>
<tr>
<td></td>
<td>Tool forces you to consider all critical information, but has more detail than required for a simple reference.</td>
</tr>
<tr>
<td></td>
<td>Not all parts are relevant for every patient - but it’s a good reminder of what needs to be considered.</td>
</tr>
<tr>
<td></td>
<td>Sticky Note is my communication method of choice for referred patients who haven’t been admitted. This is a good example of what to include.</td>
</tr>
<tr>
<td></td>
<td>The framework is too long for a Sticky Note; I would never put this much information in a Sticky Note.</td>
</tr>
</tbody>
</table>
LIMITATIONS

• Difficult to define “adequate” handovers (not all patients need exhaustive handoff communication)

• Direct observations = Hawthorne effect

• Difficult to capture clinical outcomes
Back to our LOCAL PROBLEM...

Active ED Patients

100%
75% had verbal handover communication
50% had electronic written communication

Referred/Admitted Patients

69%
44% had verbal handover communication
12% had electronic written communication
Improvement Phases

PDSA #1
- Staff Education
- Resident Education
- Handover Tools: Pocket Cards, Posters

PDSA #2
- End-User Survey
- Physician Feedback
- Revised Pocket Card

PDSA #3
- Policy Change for MRP of Referred Patients
• Handover culture is **complex**; cannot just plug-and-play a “checklist”
• Handover tools need to **balance** complexity of patient communication requirements, with **ease of use & ability to adapt**
• Residents & Learners play major role in any process change; **leverage their learning needs** as driving force
CONCLUSIONS

• Use of a standardized, ED-specific Handover Tool increased the frequency and quality of communication of critical patient information between shifts.

• Future PDSA cycles of this QI initiative will focus on interventions to further enhance utilization of the tool for handover preparation, and to measure direct impact on patient clinical outcomes.
QUESTIONS?

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