EXAMINING THE PROPERTIES OF A HANDOVER OBSERVATION AUDIT TOOL

BERNICE REDLEY

Tell me, and I will forget.
Show me, and I may remember.
Involve me, and I will understand.”
- Confucius, 450 BC
OVERVIEW

- Examining quality of clinical handover
- Why observation audit?
- Challenges of audit of clinical handover
- Observation audit tool development
- Case studies
  - Anaesthetist to nurse in PACU
  - ICU-Ward handover of cardiac surgical patients
  - Nurse-nurse bedside handover

CLINICAL HANOVER

NSQHSS (2011) Standard 6

“the transfer of professional responsibility and accountability for some or all aspects of care for a patient, or group of patients, to another person or professional group on a temporary or permanent basis” (p. 8).

- Literature
  - Handover miscommunication significant contributor to preventable harm
  - Complex clinical activity with multiple dimensions
  - Broad guidance about reducing handover risk: focus on content
  - Emerging literature recognises human and environmental factors
  - Tools, Mnemonics, Checklists, Reminders
  - Features of effective handovers are; two way face-to-face communication, written support tools and content that captures intention.
  - Research focus on contributors to harm, what NOT to do...!

Handover provides a key audit point in transfer of care

(ACSQHC, 2011; Hill & Nyce 2010; )
Resilience

how individuals, teams and organisations monitor, adapt to and act on failures in high-risk situations

(Jeffcott et al 2009)

Positive deviance

Identify individuals that consistently demonstrate high performance in the same context and with the same resources

(Bradley et al. 2009; Lawton et al. 2014)
OBSERVATION AUDIT

“Gold Standard” in quality assurance
• Overcome limitations of other methods
  – Self-report
  – Quality of documentation in care records
  – Rely on self-recognition e.g. conscious vs unconscious competence-repetitive activity
  – People do not always do what they ‘think’ they do
  – Incident data can be misleading
  – Reporting is variable

Complement other methods e.g. Staff perceptions

OBSERVATION AUDIT PURPOSE

Purpose
• Collect evidence about performance
• Examine compliance with expected or ‘good practice’
• Make judgements on whether standards are achieved
• Guide individual(s) about performing to the standard required
• Identify performance gaps
• Inform improvement activities
CHALLENGES OF HANDOVER AUDIT

- Capture variability and complexity in ‘real’ world
- Variability in context, content and processes
- Multiple interrelated influences
- Link between processes and outcome?
- Benchmark standards
  - Local policy vs Best practice
  - Standardised vs flexible
  - Generic vs specific
- Immediate coaching / feedback opportunity
- Avoid bias: sampling, data collection, “Hawthorne effect”

OBSERVATION ASSESSMENT TOOL DEVELOPMENT
**STEPS**

- Planning
  - Define what good practice looks like: policy, procedures, guidelines
  - Context and conditions
  - What are the standards
- Design and development
  - Components of the tool and how they fit together
  - Order of items, visual layout
  - Pilot test
- Quality checks
  - How well does the tool perform?


**QUALITY OF HANDOVER AUDIT TOOLS**

Properties and quality: analysis of tools often not achieved

- **Validity**: measures what is intended
  - Face, content, construct, concurrent, predictive
  - Literature, policy, procedure, expert, practice
- **Reliability**: Consistent and accurate results
  - Inter-rater, inter-item, inter-test
  - Observation decision-making rules
  - Experts, Intended users
- **Usability**
  - Practical for users in everyday practice
  - Intended users
  - Data is useful for the intended purpose

Collect useful data

(Burns & Grove, 1993; Ahmed et al. 2011)
CASE STUDY 1

Anaesthetist-nurse handover in PACU

- Mixed Methods: Non-participant practice observation & Focus groups
- Setting: 3 PACU’s, public and private
- Participants: 185 handover, 62 staff
- Results: Characteristics of good handover practice, verified in focus groups with clinicians.
  - Overall Process
  - Verbal communication tool
  - Information checklist
  - Matrix of patient safety risks
  - High face validity with anaesthetists and nurses

CASE STUDY 1 (CONT)
CASE STUDY 1 (CONT)

- Follow up study to test quality of tools: 3 sites, <900 handovers

Observation audit pre and post implementation of tools

<table>
<thead>
<tr>
<th>Pre (n=107)</th>
<th>Post (n=95)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handover duration (95% CI) sec</td>
<td>153-199</td>
</tr>
<tr>
<td>Distractions</td>
<td>50%</td>
</tr>
<tr>
<td>Interrupted</td>
<td>10%</td>
</tr>
</tbody>
</table>

*P<0.05
CASE STUDY 2

ICU-ward handover of cardiac surgical patients

Objectives: Adapt existing tools to standardise nursing handover from the intensive care unit (ICU) to the cardiac ward and assess patient safety risks before and after pilot implementation

Method: A three-stage, pre-post interrupted time-series

Setting: ICU large private hospital

Participants: 40 handovers, 16 nurses

Results:
- Context specific handover tools
- Good content and face validity, feasibility and usability of tools
- Patient safety risks at handover
- Pre-post reduction in patient safety risks

(Graan et al, 2015)
### Checklist

**Pre and post implementation patient risk measures**

- Any specific patient preferences
- Limiting factors (e.g. cognitive impairment, communication or self-care problem)
- Family and social situation

**Patient Identity**

- Confirm name with patient and on ID band
- Allergy band
- Patient labels on all charts

**Escalation of care**

- Clinical deterioration or escalation criteria (e.g. vitals, pain, other)
- Who to contact, when and how?

**Medication errors**

- New, ceased or changed medication orders
- When to cease or recommence usual medications
- Check medication chart/s up to date
- Identify any high risk medications (e.g. Anticoagulants, strong opioids, antipsychotic, hypoglycaemic, antidepressant, antibiotics)
- Restate any medication allergies or sensitivities

**Ventricular assist devices, invasive lines, tracheostomy**

- All invasive lines (e.g. IV, ICC, IDC, Pacing) have insertion date, care instructions and removal date
- VTE prophylaxis
- Respiratory management
- Specific post-operative care instructions and Wound care
- Pain management

**Safe blood or blood products transfusion**

- Previous or expected transfusion

**Prevent pressure injury**

- Pressure injury risks
- Preventive interventions

**Prevent harm from falls**

- Mobility risks
- Preventive interventions

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**CASE STUDY 2 (CONT)**

Pre and post implementation patient risk measures

(20 observations)

- ward readiness to receive patients (10% vs 95%)
- checking patient identity (0% vs 100%)
- delivery of handover at the bedside (25% vs 100%)
- communication of complete information (40% vs 100%)
CASE STUDY 3

Nurse-Nurse bedside handover Observation audit tool

Objective: Examine the reliability, validity and usability of a multi-purpose tool: training, coaching, audit: evaluate handover quality

Methods: 3-stage sequential mixed method

- Stage 1: content & face validity using literature and experts
- Stage 2: Revise and pilot test
- Stage 3: Non-participant practice observation audit with independent clinician observers

Setting: 5 inpatient wards at one site of health service

Tool comprised of 3 concepts (process, content, environmental safety) represented by 24 Criterion and 52 illustrative behaviours

CASE STUDY 3 (CONT)

- Audit of 199 ‘real’ handover events across 5 wards
  - 72 had an independent second observer
  - field notes captured data on tool usability

- Organisation set benchmark was behaviours to be observed in 80% of handovers
  - 11.7% (n=2) content
  - 17.6% (n=3) process
  - None related to environment
### CASE STUDY 3 (CONT)

#### Kappa Values

<table>
<thead>
<tr>
<th>Agreement Level</th>
<th>Inter-observer Reliability Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unable to calculate</td>
<td>![Graph showing Kappa values]</td>
</tr>
<tr>
<td>Poor agreement &lt; 0</td>
<td></td>
</tr>
<tr>
<td>Slight agreement 0.0 - 0.20</td>
<td></td>
</tr>
<tr>
<td>Fair agreement 0.21 - 0.40</td>
<td></td>
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<tr>
<td>Moderate agreement 0.41 - 0.60</td>
<td></td>
</tr>
<tr>
<td>Substantial agreement 0.61 - 0.80</td>
<td></td>
</tr>
<tr>
<td>Almost perfect agreement 0.81 - 1.00</td>
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#### Exemplar Behaviour

<table>
<thead>
<tr>
<th>Exemplar Behaviour</th>
<th>Kappa Measure of Agreement</th>
<th>% Observed</th>
</tr>
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<tbody>
<tr>
<td>3.2 States principal problem and other problems influencing care (Content)</td>
<td>0.33</td>
<td>82.3</td>
</tr>
<tr>
<td>3.4 States presence or absence of allergies (Content)</td>
<td>0.38</td>
<td>3.3</td>
</tr>
<tr>
<td>3.6 states management strategies requiring implementation (e.g. bed alarms, walking aids), and plans for removal of any invasive devices (content)</td>
<td>0.36</td>
<td>19.4</td>
</tr>
<tr>
<td>3.1 At least three approved patient identifiers are used to confirm patient identity (ID band, label on care records and verbally with the patient) (process)</td>
<td>n/a</td>
<td>1.6</td>
</tr>
<tr>
<td>1.4 Preferences for involvement in handover (e.g. prefers to sleep)</td>
<td>0.24</td>
<td>9.9</td>
</tr>
<tr>
<td>4.1 Both nurses visually inspect the patient</td>
<td>0.26</td>
<td>29.5</td>
</tr>
<tr>
<td>4.2 Check that the call bell is within reach.</td>
<td>0.21</td>
<td>16.4</td>
</tr>
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SUMMARY

- Examining quality of complex clinical activities like clinical handover is challenging
- Observation audit is one useful way to examine ‘real’ practice
- Consider examining the properties of your observation audit tools
- Use complementary methods to understand data
- Observation has a key role in quality improvement

REFERENCES


