Facilitators and barriers to the use and implementation of care bundles for preventing surgical site infections: An ethnographic finding

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Surgical site infections

(WHO 2016; Keenan et al., 2014; WHO, 2016; Tanner, 2015; Dixon et al., 2022; Pop-Vicas et al., 2022; Koek et al., 2017; Hoang et al., 2017; Vij et al., 2017)

Biggest cause of HCAI worldwide (WHO, 2016)

SSIs account for **15-20%** of all HCAIs

SSIs continue to be a serious complication following surgery

Cause of SSIs is multifaceted (healthcare environment, healthcare workers & patients

40-60% of SSIs are preventable

Cost of SSIs

Impact

- Doubles length of post operative stay
- Increases re-admission rates
- Increase mortality
- Decreases physical and psychological wellbeing

Research question and study objectives

Research question

What are the facilitators and barriers to the use and implementation of care bundles for preventing surgical site infections in hospitals?

Objectives

1: To conduct a scoping review to explore the range of implementation strategies intended to reduce SSIs

2: To explore practice, organisational and cultural contexts in which organisational interventions (care bundles) are applied in hospitals

3: To assess the reviewed interventions and explore how they need to be adapted to enable successful implementation

Ethnography: direct observations

210 hours of observations

Attended stakeholder meeting, Attended manager meetings, IPC staff, Pre-operative clinics, Patient care on surgical wards (pre and post-surgery), Operating theatre, Recovery

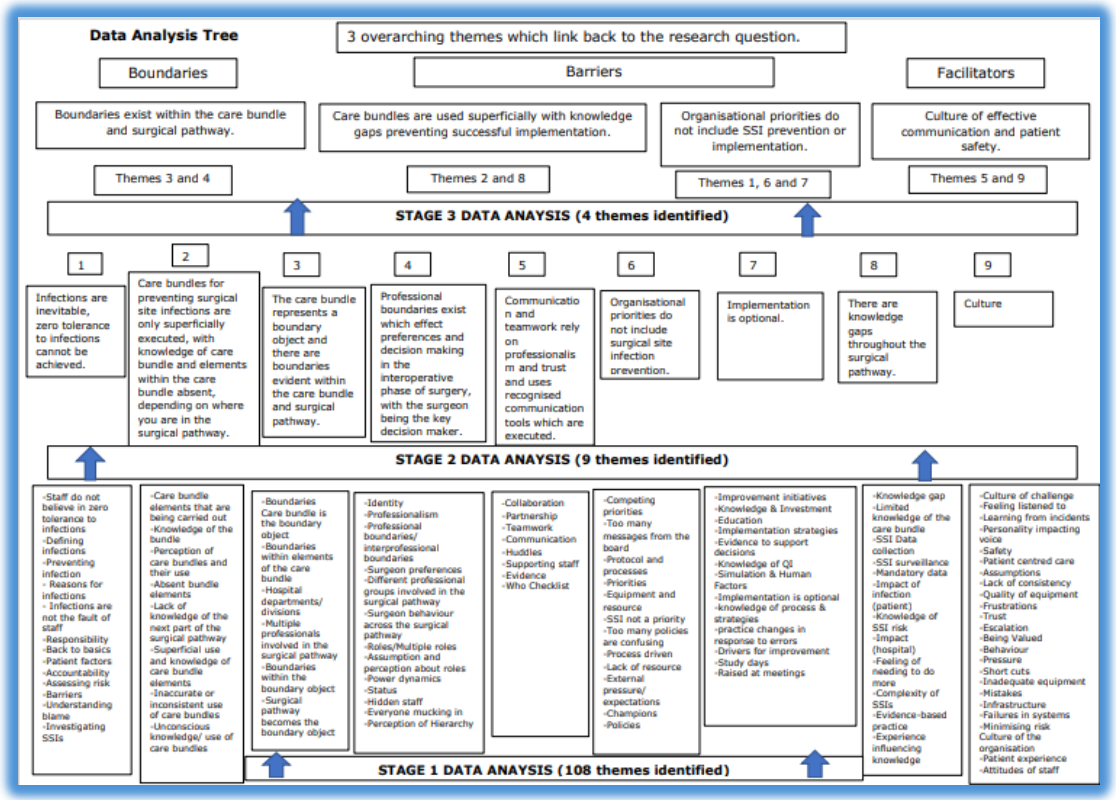
Followed a recognised patients journey through a surgical pathway

Observed staff working within all aspects of the surgical pathway

Ethnography: semi-structured interviews

- Completed 43 interviews- mix of disciplines
- Nurses, surgeons, anaesthetists, ODPs, HCA, theatre support workers, chief nurse, senior managers, infection prevention and control, patient safety and other healthcare professionals working along the surgical pathway.
- Interviews were carried out whilst observations were being carried out/ seperate interview times were also planned following observations
- Most interviews lasted between 30 and 60 minutes
- Staff availability often dictated interview length

Data analysis



- Grounded theory
- Date drove coding ‘open coding’
- Thematic analysis to construct themes
- Simultaneous data collection + analysis
- First stage coding= 108 codes
- Second stage coding- 9 analytical themes
- Third stage coding- 3 overarching themes linked back to theory and research question

Main discoveries

- Boundaries exist through the surgical pathway, as well as within the care bundle. This impedes the way they are used and creates barriers to their use
- Barriers are plentiful where we see competing priorities and knowledge gaps hindering implementation
- Fruitful facilitators which sees the patient at the centre of care, with a strong patient safety culture which can drive the ability for the care bundle to be used and implemented effectively

Findings 1: boundaries

Boundaries exist within the care bundle and surgical pathway

Surgical pathway long, reaching many departments whilst interpreted differently

Care bundle

Some departments detached from care bundle

Moves through several HCP

Part executed elements of the care bundle

Healthcare professionals

Different professional roles

Multiple roles e.g surgeon

Tensions/pressure

Different priorities

HCP not recognising SSI prevention elements

Findings 2: facilitators

Core values (Trust, respect, valued)

Impact of SSIs

Awareness at patient and hospital level

1 infection too many

Consultant surgeon distress

Patient-centred

Radiated through the surgical pathway

Patient advocate

Vulnerability in theatre

Want to do the right thing by their patients

Communication tools

Who checklist, Huddles and debriefs

ODP main communicator

Findings 2: facilitators

Culture of improvement

- Challenge culture- cross disciplines
- No blame- HCP- easier to blame departments/ processes
- Lessons learned
- Patients play a part

Implementation strategies

- MDT collaboration
- Assignment of responsibilities
- Communication
- Known by senior staff- not front line

Findings 3: barriers

- **Superficial use of care bundles**
  - Prophylaxis antibiotic (not given in optimal time frame, sometimes missed, recognising difficult to adhere to)
  - MRSA screening and decolonisation (large investment in pre-op, but not followed up, No assurance pt followed instructions, variation on how treatment explained, HCP didn't know names of decolonisation treatment)
  - Normothermia (Theatre issue, no info to patients on importance of staying warm, theatre is cold, hard to warm patients up, equipment suboptimal, application timing of forced air warming, responsibility to switch on, consequences if applied to early, interventions not favoured by some surgeons)

Findings 3: barriers

- **Infections are inevitable: zero tolerance to infections cannot be achieved**
  - Surgeons feel accountable
  - Some patients just get infections- more important how they are picked up and managed
  - You do everything right and the patient still gets an infection
  - Out of their control
  - Patient factors contribute to risk
  - Long pathway for patients

Findings 3: barriers

- **Organisational priorities do not include SSI prevention**
    - No financial penalty so not a priority
    - Competing priorities
    - IPC risk deemed smaller than other risks associated with surgery
    - Priorities changes depending where you are in the surgical pathway
    - SSI not a national priority
    - SSI rates not monitored at strategic level
    - Too many priorities- hard to keep up with what they should focus on
    - Knowledge gaps around surveillance

Findings 3: barriers

- **Back to basics**
  - IPC standards often compromised
    - Lack of HH post-surgery, cleaning, door open in theatre, number of staff in theatre, BBE not followed,
- **Implementation is optional**
  - Known by most senior staff only
  - Champions
    - Good understanding of the role, but staff didn't know who they were or what they did
    - No champion role for SSI prevention, just broad IPC
  - Education
    - Limited education specific to SSI prevention internally
    - Broad IPC training
    - Divisional days- not SSI agenda
    - Staff recognised there was a gap here

Despite evidence that care bundles improve evidenced-based care for patient undergoing surgery, implementation strategies are not adopted which compromises compliance with care bundle use, contributing to the aquation of SSIs

Recommendations for practice

Simplify

Care bundle needs to be simplified with clear rational as to why elements need to be executed with shared understanding across all departments and with the HCP using them

Increase knowledge

Bridge knowledge gaps of SSI prevention intervention and strategies across the surgical pathway

Involve all HCP and all departments across the surgical pathway in SSI prevention

Increase commitment

Macro level

Link service improvement and implementation agenda

Collaborative development of implementation strategies

Use implementation science methodology

Engage patients

Beginning of their surgical journey on how they can make their own care safer

Improve interventions that support patient education

Encourage participatory role in SSI prevention

Shared governance

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