Correlation of Research

- The Australian Partnership for Preparedness Research on Infectious Disease Emergencies (APPRISE)
  - ‘APPRISE is a Centre of Research Excellence to develop research and evidence to inform Australia’s capacity to prepare, respond and recover from infectious diseases’

- Researching and optimising the use of Personal Protective Equipment (PPE) in the clinical setting
  - Understanding the contextual factors in which ED HCWs operate in relation to the use of PPE
Presentation Overview

- Background & research problem
- Methodology
- Findings
- Conclusions and relevance to clinical practice
  - Mask use is not an habitual norm in ED
  - Reliance on patients wearing masks
  - Knowledge deficit related to types of masks
- Policy implications

Background

- Global pandemics & outbreaks persist into the 21st century
  - Significant morbidity and mortality
- Hospital transmission of infectious diseases
  - Healthcare workers at risk of infection
  - Healthcare workers can be vectors of disease\(^1,2\)
- Pandemics caused by respiratory viral diseases\(^3\)
  - SARS
  - H1N1 Influenza
  - MERS-CoV
Background (cont.)

- Infection prevention & control measures
  - Use of masks
    - N95/P2 and surgical masks
    - Mask use is sub-optimal
- Frontline staff at risk
- ED is a unique environment
  - Minimal research into ED mask behaviour
Research question

What is the role of the ED context with respect to staff use of protective masks for respiratory infections?

Methods

- Ethics approval
- Western Sydney Emergency Department
- Qualitative - ethnographic study
  - Direct observation
  - Document review
  - 21 semi-structured one-on-one interviews
    - Junior and senior medical, nursing, and support staff
- Thematic analysis
  - Theoretical Domains Framework
Theoretical Domains Framework (TDF)

- Provides a comprehensive, theory-informed approach to identify determinants of behaviour.
- Used for behaviour change research
- Detects key barriers to changing practice
- Used to develop interventions aiming to change clinical practice behaviour
- Groups theoretical constructs into 14 domains
  - Knowledge; beliefs about consequences; environment etc.

Findings (ED environment)

"Because of the nature of ED, the chaos, the frenetic pace, it’s a bit disorganised, a bit messy, it’s hard – like if you just had one patient and that’s all you had, it would be very easy to make sure you followed the steps. But when you’re a bit distracted and stuff, that’s why it breaks down there."(DR3)
Findings (infection prevention/self protection)

- Patients given masks to wear
  - Increases in winter
  - Incorrect use by patients
- Perceived protection for staff
  - Staff rarely wear masks
- Nebuliser use ↓ in ED
  - Minimises aerosolisation spread
- Introduction of isolation trolleys

Findings (using masks)

- Good self-efficacy in donning and doffing
  - N95/P2 difficult to put on
- Confidence in mask protection
  - Preference towards N95/P2 use
- Claustrophobic
- Affects communication
Findings (decision-making)

- Mask use not ‘business as usual’
  - Requires cues
  - More vigilant in winter
- Choice – which mask is handy
  - May not be correct
- Confusion/lack of knowledge
  - Which type of mask to use for certain diseases
  - How each type of mask functions

Thematic analysis

Enablers
- self efficacy
- mask availability
- skills/training

Barriers
- environment
- knowledge deficit
- not routine in ED
- focus on mask for patients
Conclusions and relevance to clinical practice

1. The ED environment poses unique challenges for PPE use:
   • Applying generic IPC protocols to ED

2. Mask use when indicated is not part of routine ED behaviour:
   • Use of role models; leadership

3. Dependence on patients’ mask use for staff protection:
   • Risks from incorrect use of mask by patient
   • Risks during aerosol-generating procedures

4. Reliance on cues to trigger mask use:
   • Risk that a pandemic/novel disease is missed

5. Knowledge deficit around masks:
   • Education

Infection Prevention and Control Policy Implications

- Applying IPC policy to unique clinical contexts e.g. ED
- Guidance around the use of masks for patients
- Focus on types of masks
References


