

Hospital-based interventions that reduce Ambulance Offload Delay: A rapid review

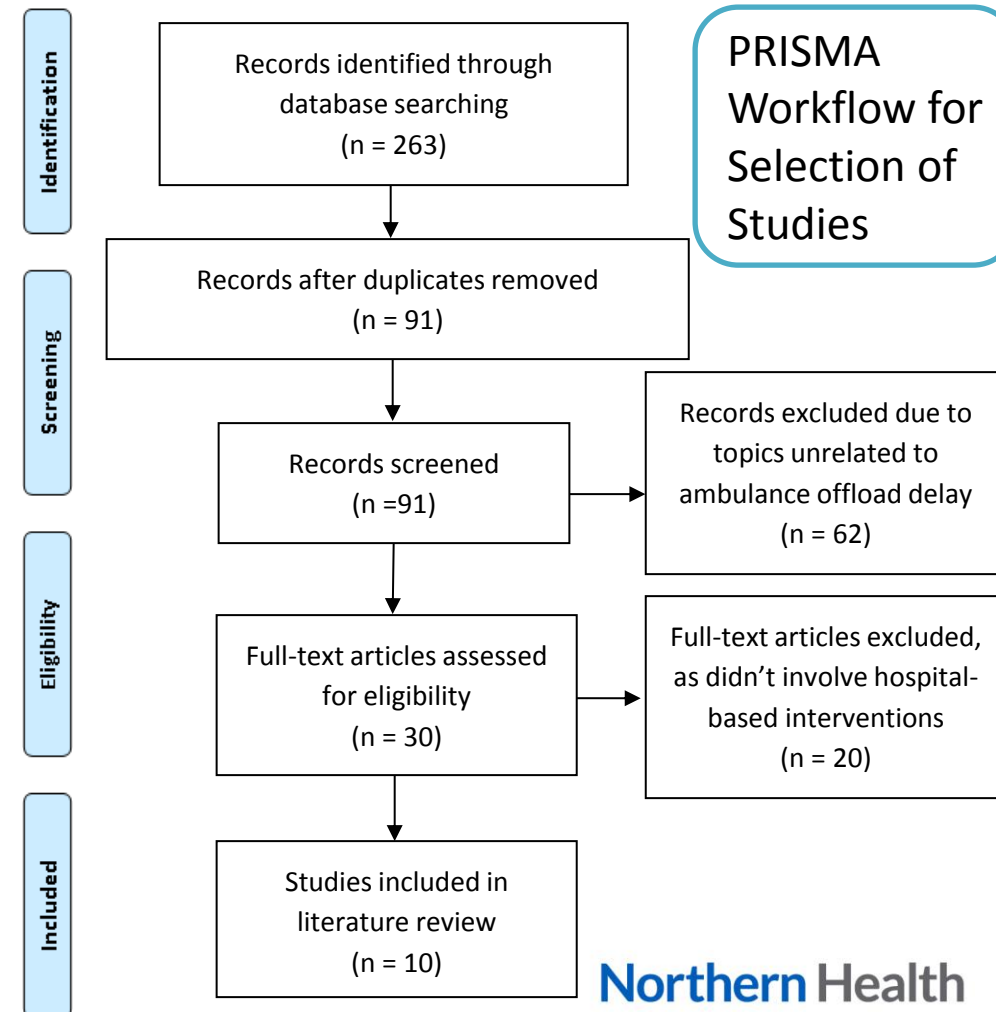
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Background

- Ambulance offload delay occurs when patients arriving via ambulance cannot have their care transferred immediately to the hospital emergency department (ED), typically due to ED overcrowding.
- Ambulance offload delay has detrimental impacts on clinical outcomes for patients, including higher rates of mortality.
- The need for hospitals to implement interventions to prevent ambulance offload delay is critical for patient care.

Method

- Rapid review of Medline, Embase and Cinahl databases was completed to source relevant literature.
- Studies that involved hospital based interventions to target ambulance offload delay or ambulance diversion were included in the review.
- Exclusion criterion for the review was studies published prior to 2014.



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Results

- 10 studies were identified to investigate hospital-based interventions impact upon ambulance offload delay.
- Themes identified from the literature included:
 - Bed management changes
 - Bed capacity changes
 - Emergency Department model of care changes
 - Emergency Department Staff Role Changes

Discussion

- Studies implementing bed management changes should include monitoring of readmission rates as an outcome measure.
- Research investigating the impact of concurrently expanding both ED and inpatient bed capacity would be beneficial.
- The generalisability of the study findings regarding ED model of care and ED staff role changes is challenging as different ED's vary in size, structure and demographic, thus may not benefit from making changes.

Summary of studies investigating hospital based intervention(s) and the impact upon ambulance offload delay

Bed management changes

- Patel *et al.* (2014)
- Sayah *et al.* (2014)

Bed capacity changes

- Crilly *et al.* (2014)
- Sayah *et al.* (2016)

ED model of care changes

- Burke *et al.* (2017)
- Lee *et al.* (2017)
- Woodward *et al.* (2019)

ED staff role changes

- Murphy *et al.* (2014)
- Clarey *et al.* (2014)
- Asha and Ajami (2014)

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Conclusion

- The findings of the study support the idea that hospital wide approaches, such as the implementation of bed management changes, can reduce ambulance offload delay and ED overcrowding.
- This study also suggests that changing ED models of care and ED staffing roles can reduce ambulance offload delay and other time related patient metrics.
- Changes to ED bed capacity didn't correlate with improvements in ambulance offload times.
- Future research might explore the transferability of hospital-based interventions such as bed management, ED model of care and staff role changes in a variety of ED settings to assess its impact upon reducing ambulance offload delay.



Ambulance Victoria and patient transport vehicles outside an Emergency Department (Verseemann, 2014)

For further information regarding this research please contact *Simonne Collins*, *BHlthSc/MOccTherPrac*, *GradDipBusAdmin*, *GradDipProfPrac (Health Education)*, *MHM*, *MBA(Hlth)*, *MCHSM* via email at simonne.collins@nh.org.au