

The Efficacy of Phone Follow-up in Reducing Adverse Events in the Emergency Department: Preliminary Data from a Pilot Project

Ottawa Hospital Research Institute



Institut de recherche de l'Hôpital d'Ottawa

Natasha Larocque BHSc; Lisa Calder MD; Ian Stiell MD; Adam Cwinn MD; Alan Forster MD
Department of Emergency Medicine, University of Ottawa, Ottawa, ON, Canada



Faculté de médecine
Faculty of Medicine

Background

- Each year, Canadians make over 14 million visits to emergency departments (EDs)¹
- Preliminary evidence suggests an alarming number of these patients return to the ED, but it is unknown how many suffer an adverse event (poor outcomes caused by medical care, for example, death, re-admission)²
- Inadequate symptom control, misdiagnosis, inappropriate management or failure in follow-up plan are preventable reasons why patients suffer adverse events after ED discharge³

Objective

- To determine whether telephone follow-up of patients discharged from the ED reduces the occurrence of preventable adverse events related to healthcare

Methods

- Before and after study at the Ottawa Hospital Civic Campus from 2011-2012
- Phase one: retrospectively assessed for the occurrence of adverse events among a pre-determined population of 500 consecutively discharged ED patients who were high acuity and triaged to non-ambulatory areas of the ED
- High acuity was defined as patients who were triaged to resuscitation, emergent care or observation
- Phase two: a telephone follow-up using an interactive voice response system (IVRS) for 500 discharged patients was implemented
- Health records were searched for flagged outcomes which included: death, admission to hospital, return ED visit, visit to a health care provider within 14 days

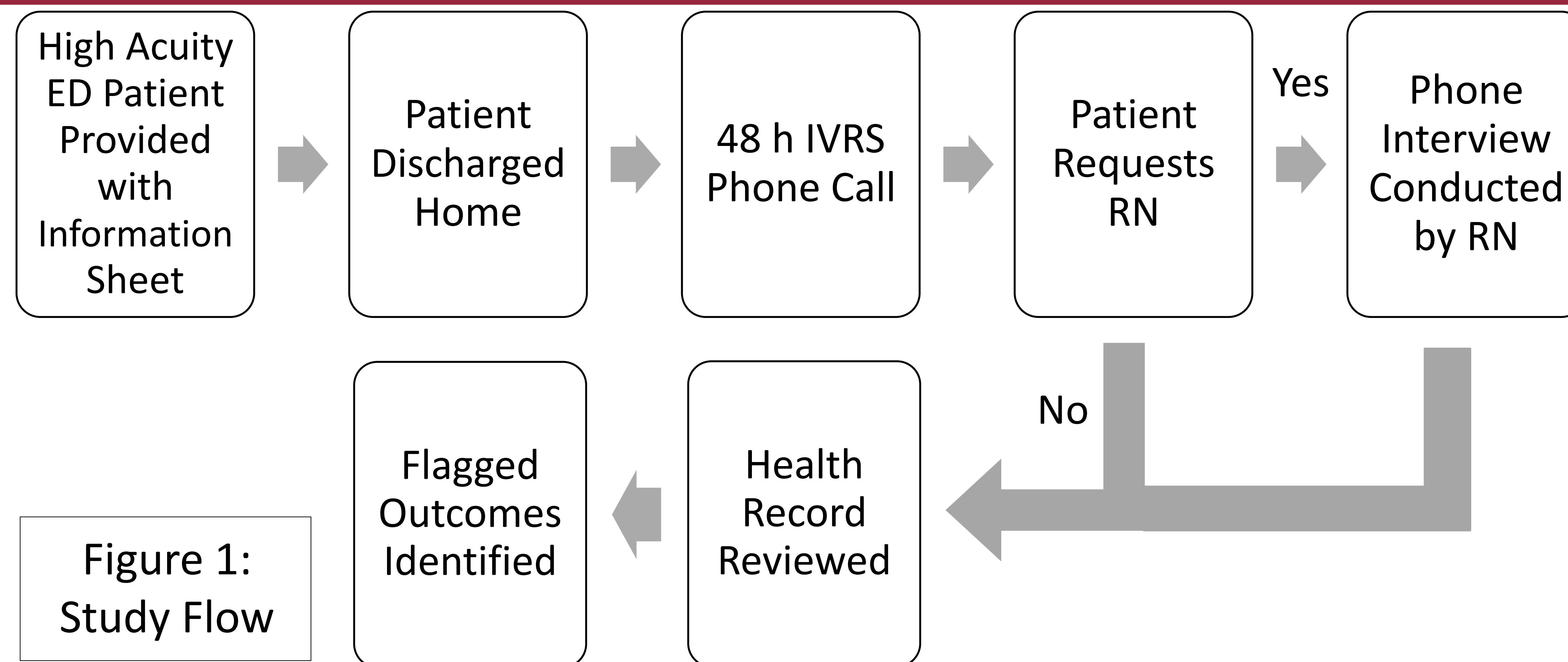


Figure 1: Study Flow

Characteristics for 325 Emergency Patients with Flagged Outcomes		
Patient Characteristics (n,%)	Pre-phase (n=162)	Post-phase (n=163)
Age (years) [mean ± SD]	59 ± 21	55 ± 20
Range (years)	17-96	18-96
Gender - female	68, 42%	78, 48%
Canadian Triage Acuity Score on Index Visit		
1 (Resuscitation)	3, 1.9%	4, 2.5%
2 (Emergent)	81, 50%	89, 54.6%
3 (Urgent)	71, 43.8%	63, 38.7%
4 (Less urgent)	3, 1.9%	5, 3.1%
5 (Non-urgent)	2, 1.2%	0, 0%
Chief Complaint Index Visit		
Abdominal pain	14, 8.6%	27, 10.4%
Chest pain	10, 8.6%	9, 16.6%
Nausea and/or vomiting	14, 2.5%	17, 3.7%
Palpitations	4, 3.1%	6, 8.6%
Shortness of breath	5, 6.2%	7, 5.5%
Syncope/pre-syncope	5, 3.1%	14, 4.3%
Diagnosis Index Visit		
Abdominal pain NYD*	8, 3.1%	18, 3.7%
Atrial fibrillation	3, 1.9%	8, 4.9%
Chest pain NYD*	3, 4.9%	4, 11%
Renal colic	5, 3.1%	3, 1.8%
Substance abuse	12, 7.4%	8, 4.9%
Transient ischemic attack	5, 1.9%	6, 2.5%

*NYD: Not yet diagnosed

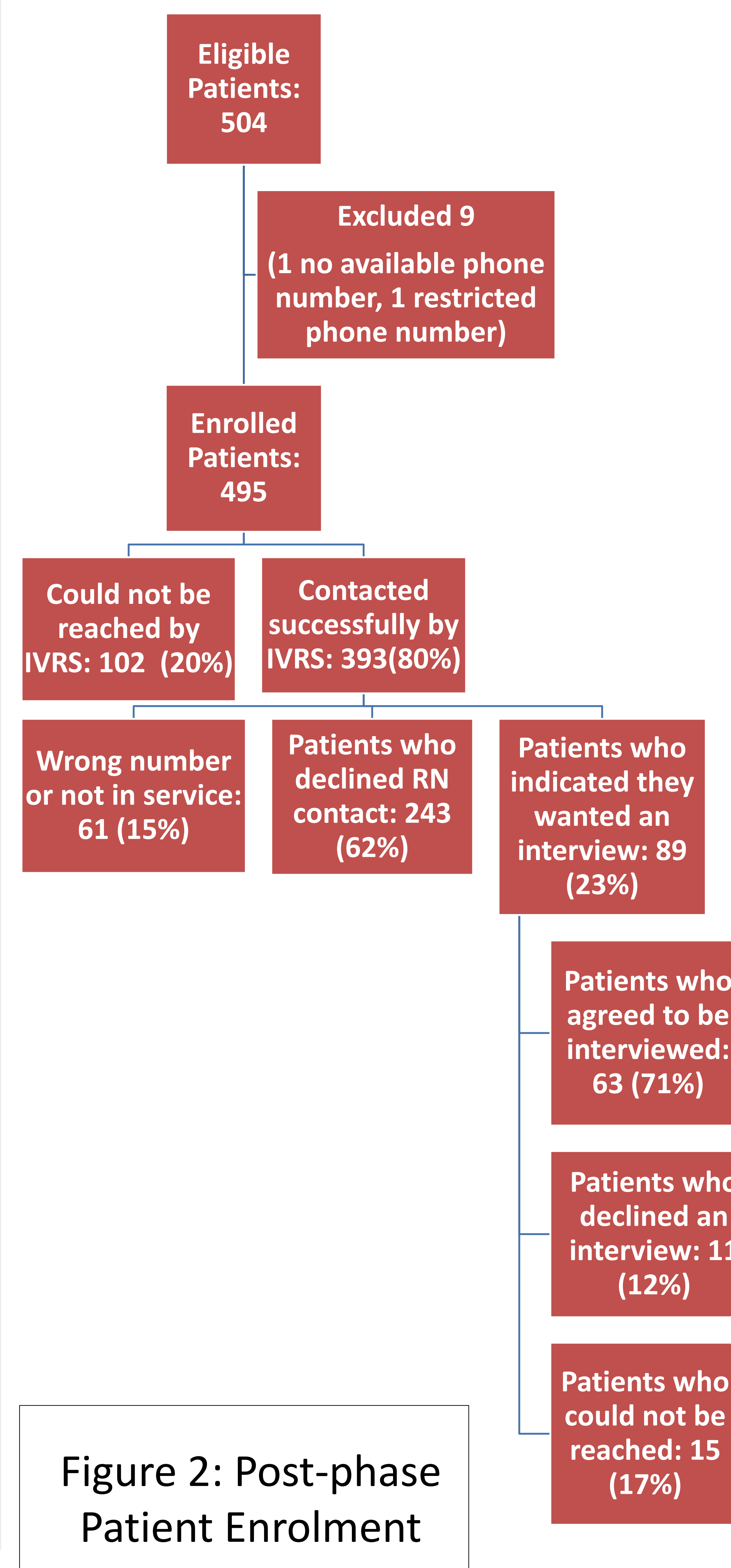


Figure 2: Post-phase Patient Enrolment

Discussion

- This study outlines the successful trial of an IVRS to screen for potential adverse events in high acuity patients who were discharged from the ED
- Only a small proportion of patients in the post-phase group wanted a follow-up phone call (12.5%)
- To optimize hospital resources, it may be more beneficial to screen for patients who wish to be contacted using an automated system versus hiring an individual to contact every discharged patient
- Next steps include adverse events analysis to determine adverse event occurrence, severity and preventability

Limitations

- The lack of information for patients who declined a follow-up phone interview in the post-phase represents a limitation of this study
- Relying solely on hospital medical records is another limitation as patients may have visited other facilities for health services
- Consecutive enrolment in the first phase and second phase of this study helps to limit any selection bias

Conclusions

- If successful, this intervention has the potential to prevent deaths, re-admissions to hospital and return ED visits ultimately enhancing patient safety across Canada

Acknowledgements

- This study was funded by The Canadian Medical Protective Association

References

- Canadian Institute for Health Information. Understanding emergency department wait times. Toronto, ON: Canadian Institute for Health Information; 2010.
- Forster AJ, Murff HJ, Peterson JF, Gandhi TK, Bates DW. The incidence and severity of adverse events affecting patients after discharge from the hospital. *Ann Intern Med.* 2003; 138(3): 161-7.
- Forster AJ, Clark HD, Menard A, et al. Adverse events affecting medical patients following discharge from hospital. *CMAJ.* 2004; 170:3345-49.