Post-discharge Coordination Telephone Outreach for Patients Enrolled in the UNC OPAT Program

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BACKGROUND

- The UNC Outpatient Parenteral Antimicrobial Therapy (OPAT) program enrolls patients receiving at least 14 days of post-discharge antimicrobials and monitoring is led by an ID pharmacist.
- The transition from the inpatient to outpatient setting for OPAT patients can be a challenging process.
- In April 2019, we initiated a telephone outreach intervention with a goal to contact all OPAT patients within 3 days of discharge and discuss:
  - UNC OPAT program and contact information
  - OPAT regimen and potential side effects
  - Home infusion/home health information
  - Relevant follow-up appointments/transportation
  - Patient/caregiver concerns
- Outreach was completed by the OPAT nurse, pharmacist, or pharmacy trainees.
- We assessed the impact of telephone outreach on readmission and adverse events during OPAT.

METHODS

- We abstracted electronic heath record data for baseline demographics, unplanned readmissions, and adverse events for 374 patients who completed an OPAT course between 4/10/19 and 5/20/20.
- Adverse events (AE) included hepatotoxicity, nephrotoxicity, neutropenia, eosinophilia, thrombocytopenia, creatinine kinase elevation, rash, *Clostridioides difficile* infection, and line complications.
- As a comparison group, unplanned readmissions and adverse events were assessed in a historical control period from 4/1/18 – 3/31/19.
- We estimated absolute risk differences to compare outcomes between contacted versus uncontacted patients.

RESULTS

- 228 (61%) patients were successfully contacted by phone within 3 days of discharge. 146 (39%) were not reached either due to patient or clinician availability.
- Unplanned readmissions occurred less frequently for contacted patients. (Table 1)
  - 14% versus 21%; risk difference -7%; 95% CI: -15%, 1%
- Total adverse events were similar in patients contacted versus not contacted during the intervention period
  - 58% versus 54%; risk difference 4%; 95% CI: -6%, 15%

TABLE 1: Characteristics of and Outcomes Among Groups

Telephone Outreach	Median Age (IQR)	Risk of Unplanned Readmission	Median Days to Readmission (IQR)	Risk of Adverse Event
Yes (n = 228)	52 (42 – 63)	14%	17 (10 – 25)	58%
No (n = 146)	55 (44 – 64)	21%	14 (6 – 27)	54%
Historical control (n = 287)	56 (45 – 66)	22%	15 (7 – 33)	63%

TABLE 2: Reasons for Readmission

Telephone Outreach	Fever	Medication AE	Clinical Failure	Unrelated to OPAT	New infection
Yes (n = 36)	14%	28%	11%	36%	11%
No (n = 34)	6%	3%	21%	68%	3%
Historical control (n = 70)	6%	13%	6%	66%	10%

CONCLUSIONS & IMPLICATIONS

- Readmission risk is multifactorial; a telephone call alone is insufficient to explain readmission risk.
- Readmission rates for patients who did not receive a phone call were comparable to historical baseline data, but adverse event rates were lower in the intervention period.
- A post-discharge phone call is a simple and low cost intervention.
- Future interventions and research should address specific interventions made during the telephone outreach.

LIMITATIONS

- Telephone outreach was prioritized for patients with complex antimicrobial regimens or a perceived higher risk of experiencing an adverse event.
- The intervention was not provided to all patients in the study period; patients who were not reached either did not answer or outreach was not attempted due to clinician availability.
- Clinician training (nurse vs. pharmacist) could impact content discussed during outreach call.
- This intervention was conducted at a single institution with a well-developed OPAT program and may not be generalizable to other sites.

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