An audit of discharge prescriptions for surgical and medical patients with a quality improvement (QI) initiative

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Introduction

Transitions of care such as hospital discharge present an opportunity for medication error. Lapses in communication at this interface are common. For the next healthcare provider (HCP) to issue the correct medication safely and in a timely manner, the discharge prescription needs to bridge this communication gap. Prescribing errors are the most frequent subtype of medication errors and can be repeated systematically for prolonged periods[1]. Detection of medication error using tools such as audit, learning from these errors and planning corrective action is essential to building safer healthcare systems[2].

This study adapted the Health Information and Quality Authority (HIQA) national standard for patient discharge summaries to create a benchmark for discharge prescriptions in SVPH[3]. A quality improvement (QI) initiative targeting prescribers was developed. This was designed as a bundle intervention and was called the Discharge Prescription Education Bundle (DPEB).

Aim

To evaluate the current level of discrepancies on discharge prescriptions for surgical and medical patients and to ascertain if a QI initiative can impact on the severity of medication error at the point of discharge.

Objectives

1. Assess compliance with the HIQA standard as adapted by undertaking an audit of discharge prescriptions for discrepancies
2. Evaluate discrepancies for the potential to cause harm using the National Coordinating Council for Medication Error and Prevention (NCC-MERP) index
3. Design, implement and champion a QI initiative to improve prescription compliance with the HIQA standard as adapted
4. Re-audit discharge prescriptions for discrepancies to assess the impact of the QI initiative
5. Determine if the QI initiative impacts on the potential to cause harm

Definitions

Discrepancy: Any deviation on a discharge prescription from the HIQA standard as adapted

Compliance: Occurred when no discrepancies were present on a discharge prescription

Error: A discrepancy that had the potential to cause harm to a patient

Bundle Intervention: Consist of a minimum of two of more interventions of a different nature which are implemented simultaneously with the aim of improvement[4].

Methods

- An uncontrolled consecutive 30 day baseline (n=70) and re-audit (n=70) of patients discharge prescriptions on a 26-bed mixed medical and surgical ward against the HIQA standard as adapted.

Figure 1. Shows HIQA standard as adapted categories that were evaluated in the audit

- Various study sample characteristics such as age (baseline mean=65.19, re-audit mean=62.0), gender (baseline 40% male, 60% female, re-audit 53% male, 47% female) and length of stay (baseline 6 days, re-audit 5 days) were evaluated to determine if there was an association between them and compliance with the audit standards.
- Discrepancies were divided based on the capacity to cause error (NCC-MERP Category A) and where an error occurred (NCC-MERP Category B-I). When an error occurred (NCC-MERP Category B-I) these were dually assessed by the project lead and an independent panel for the potential to cause harm to patients.
- After the baseline audit a QI initiative called the Discharge Prescription Education Bundle (DPEB) was developed and implemented to target prescribers.
- The DPEB consisted of 3 components:
  1. Discharge Prescription writing competency framework and Discharge Policy
  2. Discharge Prescription Educational Tool
  3. Discharge Prescription Visual Prompt
- A verbal presentation was given to prescribers. They were each given a copy of the Discharge Policy and the discharge prescription educational tool. This included the results of the baseline audit. The Discharge prescription visual prompt were attached to all prescriptions. The DPEB was promoted on the ward for two weeks prior to and also during the re-audit time period.

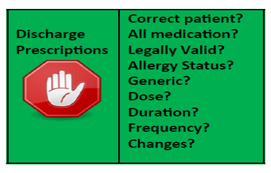

Figure 2. Shows the discharge prescription visual prompt that was placed on all discharge prescriptions.

- The impact of the QI initiative was assessed with a 30 day re-audit of 70 patients discharge prescriptions.

Results

Discrepancies

- In the baseline audit the overall number of discrepancies was 156, in the re-audit the overall number of discrepancies was 59 ($p<0.05$).

Category of Discrepancy	Baseline	Re-audit	p Value
Legislative requirements	2	1	0.563
Allergy Status	28	2	0.000
Generic	75	24	0.654
Dose	6	0	0.031
Frequency	5	0	0.056
Duration	5	0	0.023
Communication	35	32	0.467

Table 1. Shows overall number of discrepancies for all categories evaluated in the audit.

Compliance

- In the baseline audit the overall compliance with the audit standards per patient was 17.1%, in the re-audit the overall compliance was 54.3% ($p<0.05$).

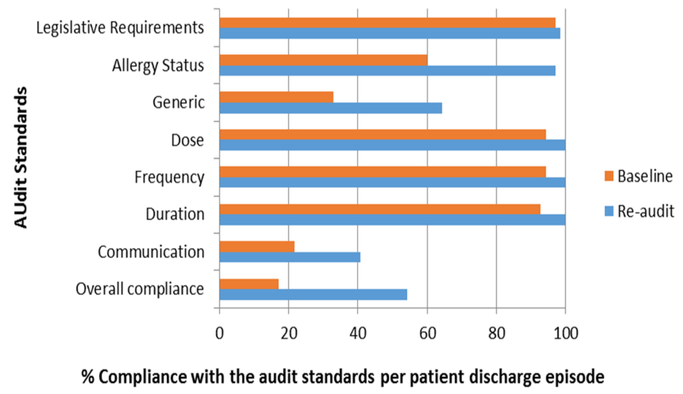

Figure 3. Shows the percentage of patients prescriptions compliant with the audit standards.

Error

- There was a significant reduction in errors on discharge prescriptions from the baseline audit (22.8%) to the re-audit (2.9%) ($p<0.05$).
- There was a significant difference observed in potential and actual harm from the baseline to the re-audit ($p<0.05$)

NCC-MERP Index Category	Baseline		Re-audit	
	Actual	Potential	Actual	Potential
Category B	15	0	2	0
Category C	1	8	0	1
Category D	0	4	0	1
Category E	0	2	0	0
Category F	0	2	0	0

Table 2. Shows the NCC-MERP category for potential and actual harm from errors in the baseline and re-audit

Strengths

- The QI initiative used was proactive not reactive
- Use of the DPEB was not restricted to pharmacy opening hours
- This initiative was very low cost to implement

Limitations

- The QI initiative was a local initiative implemented by one pharmacist on one ward
- The study sample included seventy patients prescriptions
- No patient follow up occurred. It is not possible to determine if QI initiative had an impact on patients after discharge

Conclusion

- By adapting the HIQA standard, the aspiration of this audit was to create a benchmark for writing discharge prescriptions.
- The goal was for discharge prescriptions to contain all the relevant, necessary and unambiguous information for the next HCP to provide patients medication safely and in a timely manner after their discharge from hospital.
- The QI initiative, the DPEB, was designed based on these standards and implemented to improve and achieve this goal for every discharge prescription.
- After implementation of the DPEB, discrepancies reduced significantly from 156 to 59 ($p<0.05$) and compliance improved significantly from 17.1% to 54.3% ($p<0.05$).
- Sixteen medication errors occurred in the baseline audit and two in the re-audit. The errors in the re-audit had less potential for harm then the baseline audit. In the baseline audit one actual error reached a patient, after the QI initiative was implemented no actual errors reached a patient.
- In the re-audit, there was a significant reduction in both the prevalence and severity of medication errors ($p<0.05$). This showed a significant improvement for patient safety after the QI initiative.

Main Outcome

- The discharge prescription visual prompt is now pre-printed on all discharge prescriptions in SVPH

References

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