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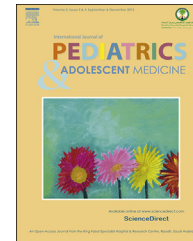


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ORIGINAL RESEARCH ARTICLE

Improving Medication Reconciliation compliance at admission: A single department's experience



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Abstract *Background and objectives:* The objective of this research is to improve compliance of the medication reconciliation process at the time of patient admission in the Department of Pediatrics at King Faisal Specialist Hospital and Research Centre, Riyadh, Kingdom of Saudi Arabia using an innovative evidence-based approach.

Materials and methods: Most of the recent efforts at our institution to revamp the medication reconciliation process have failed. Thus, we implemented an innovative evidence-based approach to improve the compliance of the reconciliation process at admission. This approach focused on the Department of Pediatrics at King Faisal Specialist Hospital and Research Centre (KFSH&RC). We established specific educational and monitoring programs that were run over a two-month period, from June to July 2015. The educational program consisted of focused hands-on daily interactive training sessions presented to a small group of residents, i.e., 5–6 residents per session, for a period of one week. One resident was identified as a "Super-User" to provide ongoing support for the other residents involved in the process. A close monitoring process was also implemented, which included daily follow up and encouragement from three assigned consultants. In addition, periodic independent audit report results prepared by Healthcare Information Technology Affairs (HITA) were communicated to the Department of

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Pediatrics regarding physician compliance in the medication reconciliation process.

Results: Physician compliance for admission medication reconciliation documentation in ICIS ranged from (0–15%) between the first quarter of 2012 and the first quarter 2015, we designated the official hospital audit for the first quarter of 2015 as a baseline audit report. We implemented our initiative during the months of June and July 2015. During that time, there was a gradual improvement in the number of admission medication reconciliations reported by the independent audits of our general Pediatrics Ward (B1), which represents the majority of pediatric admissions. The 57% of 26 patients had medication reconciliation completed by the first report dated 16 June 2015. This percentage improved to 92% out of a total of 13 patients at the last report on 12 July 2015. This consistent improvement also occurred in other areas where pediatric patients were admitted including the B3-1 (from 88% to 90%), the NICU 1 (from 83% to 100%) and the NICU 2 (from 90% to 100%).

Conclusions: By structuring and implementing intensive educational and monitoring programs, a marked improvement in the compliance of medication reconciliation at the time of admission for the pediatric patient population was achieved. We believe that our department-based results would be generalizable if a similar hospital-wide programme was to be rigorously implemented. Copyright © 2015, King Faisal Specialist Hospital & Research Centre (General Organization), Saudi Arabia. Production and hosting by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

Medication related errors at admissions and the discharge of patients at health institutions are common and preventable [1–3]. One of the best measures to prevent these errors is the use of an accurate medication reconciliation process that integrates the effort of different health care providers [4,5]. Medication reconciliation improves patient safety and reduces the risk of medication error by ensuring that health care providers and patients have an up-to-date list of the medications that a patient is taking [6].

The Joint Commission has defined medication reconciliation as “the process of comparing a patient’s medication orders to all of the medications that the patient has been taking.” Medication errors may include omissions, duplications, dosing errors, or harmful drug interactions. This process should be performed at every transition of care in which new medications are ordered or existing orders are rewritten [7].

King Faisal Specialist Hospital and Research Centre (KFSH&RC) is a tertiary care center located in Riyadh, the capital city of Kingdom of Saudi Arabia. It is a 894-bed medical institution that has been accredited by the Joint Commission International Accredited (JCIA) academic medical facility. KFSH&RC receives referrals from across the nation in multiple disciplines. It is well known in the fields of Oncology, Organ Transplantation, Cardiovascular Diseases, Neurosciences and Genetic Diseases.

Furthermore, KFSH&RC has well established training programs in multiple medical and allied health specialties [8].

One of the major departments at KFSH&RC is the Department of Pediatrics. There are more than ten sections with more than 44 physicians all delivering state of the art medical care as well as providing a friendly educational environment to trainees. Annually, the Pediatric department admits approximately 3000 inpatient cases and about the same number of outpatient cases.

From primary prevention to advanced tertiary care, the Department of Pediatrics provides up-to-date and state-of-the-art child health care [8]. The historical background of King Faisal Specialist Hospital in regard to medication reconciliations can be summarized as follows:

- 20 January 2010 – Medication Reconciliation functionality was available in the Cerner Millennium Integrated Clinical Information System (ICIS), an electronic patient records system used at KFSH&RC.
- Between 2010 and 2014, the ICIS Medication Reconciliation functionality proved to be non-user friendly and was not used due to this fact.
- In 04 September 2014, HITA improved this system and launched the Enhanced Medication Reconciliation, a much needed user-friendly version.

2. Objective

To improve the compliance of the medication reconciliation process at the time of admission to the Department of Pediatrics.

3. Materials and methods

We reviewed the medication reconciliation process at the Department of Pediatrics at KFSH&RC. Physician compliance for admission medication reconciliation documentation in ICIS ranged from (0–15%) between the first quarter of 2012 and the first quarter 2015, according to official audits completed by the Quality Management Department at KFSH&RC. The audit process starts by selecting a random representative sample from the total number of quarterly admitted patients. The target is to audit six charts per consultant, as applicable. The length of stay for the selected random sample of patients should be from 3 to 10 days (Table 1).

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