

## Short Communication

# A Tool for Quality Improvement: Using the 5s Methodology in a Remote Community Health Centre

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### ABSTRACT

**Introduction:** The 5S methodology is a quality improvement tool comprising five “S” components in successive steps: sort, simplify or set-in-order, sweep or shine, standardize, and self-discipline or sustain. We utilized the 5S methodology as a quality improvement tool in medication storage at a primary health care centre in a remote community in Canada.

**Method:** Unrequired items were cleaned out of the entire pharmacy room – sort. Medications were set- in-order by identifying their class and grouping them according to medication classes – simplify. Missing essential medicines were ordered and replaced - sweep or shine. According to the medication classes, the remaining (unmoved) essential medications were arranged on the drug cabinet – standardize.

Usage instructions were shared with all clinical staff via email - self-discipline.

**Results:** The 5S methodology was impactful as the new medication storage method improved storage quality, limited medication spoilage and ensured appropriate tracking of medications’ expiration dates.

**Conclusion:** Our intervention has employed the use of Lean methodologies toward the goal of quality improvement. This project illustrates how applying these principles offers opportunities for simplification, efficiency, and substantial waste reduction in remote health care settings.

**Keywords:** Lean, Quality Improvement, Community Health Service, 5S in Health Care, Primary Care.

### Introduction

The 5S methodology is a quality improvement tool that comprises five “S” components in successive steps: sort, simplify or set-in-order, sweep or shine, standardize, and self-discipline or sustain [1]. Originating from the engineering field in Japan, the 5S method has been used in the automotive and other engineering industries [2]. The method was later introduced into the health care sector for system improvement and saving costs and time of delivering health services [3].

Quality improvement methods in primary care are essential to save the time spent completing routine tasks [4]. In a primary health care center in a remote region in Canada, medications were poorly stored in the pharmacy room, which led to a significant amount of time spent searching for medicines, medication errors. In addition to the expiration of drugs due to poor tracking and spoilage of medications due to poor storage. To improve medication storage, we introduced the 5S

methodology as a quality improvement tool to assist the health care Centre. This short report aims to share information about our intervention and the results that followed afterwards.

### Intervention/Method

The entire pharmacy room was cleaned out using the first component of the 5S - *sort*. In this phase, expired medications and medications that were no longer in use were eliminated from the room. This process also targeted increasing the space within the pharmacy area by removing all unnecessary items in the room. Medications were *set- in-order* by identifying their classes and grouping them according to medication classes. Nursing staff inspected the pharmacy room to check for essential medicines that are required for primary health care. Missing essential medications were ordered and replaced - *sweep or shine*. A standard medication shelf was introduced into the pharmacy room, and the remaining (unmoved) essential medicines were arranged on the drug cabinet according to their drug classes

– *standardize*. Usage instructions were communicated to all clinical staff via email to facilitate successful compliance and engagement of these staff - *self-discipline*. A tracking process was introduced to identify gaps and monitor the success of the intervention. This tracking process also explores the need for further additions and subtractions in a one-month interval.

## Results

In one month, there was a 70% reduction in the average amount of time spent on medication search in the pharmacy room (from 5 minutes to 1.5 minutes). The pharmacy room setup after the intervention was visually simpler and more accessible for the nursing staff to use. There was also a 100% decrease in the average number of medication room-associated errors (from 7 to 0 in one month). There was an elimination of medication waste, as the new medication storage method provided a better storage quality, limiting spoilage and ensuring appropriate tracking of medications' expiration dates [5,6].

## Conclusion

There is a need to incorporate quality improvement efforts into all healthcare workers' day-to-day work to prevent waste within the system. Achieving these goals requires focusing on a cultural shift in workers' activities to prioritize reducing waste as a foundation for better and safer patient care. Employing the 5S methodology in this report, we share the development and validation of this simple method to improve medication storage and delivery in remote community health centres. This project illustrates how applying these principles offers simplification, efficiency, quick medication search during service delivery, substantial medication waste reduction, and quality improvement in health care.

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Submitted: July 25, 2021; Accepted: August 27, 2021; Published: September 3, 2021