LEAN medicine room save time and increase patient safety

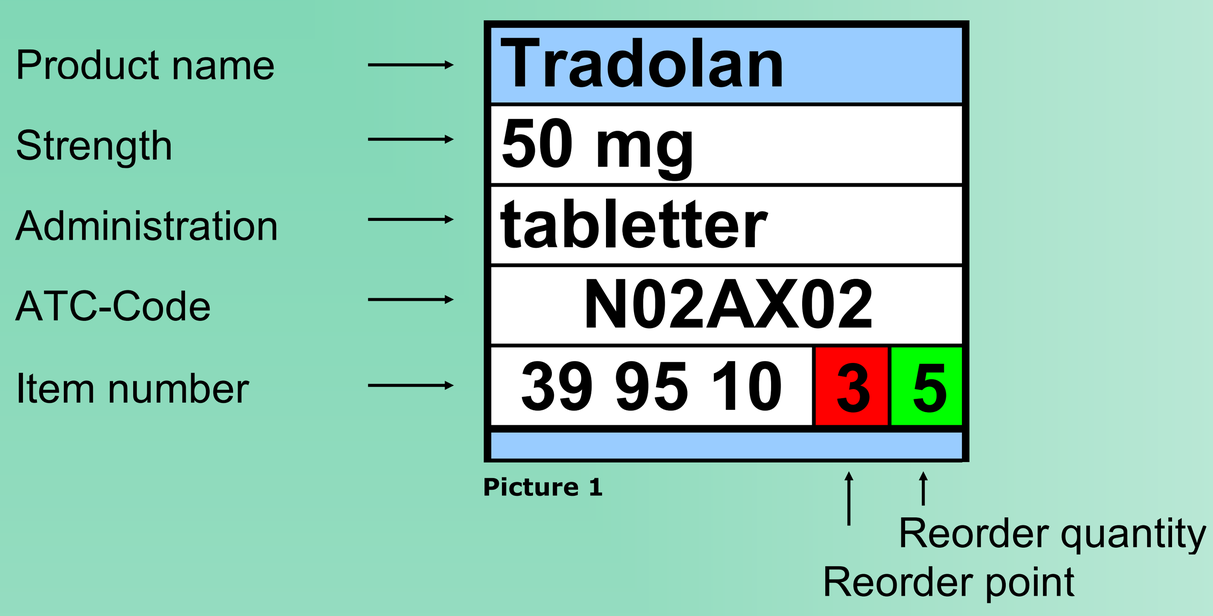
Winnie Soerensen[1], Morten B. Andersen[1], Linda B Skovsted[1]
1: The Capital Region Pharmacy, Herlev, Denmark

Background

The healthcare sector is constantly challenged in order to achieve the most health care for money and increase patient safety. Medicine dispensing is a very time consuming process for nursing staff and a process with high risk of medication errors. LEAN concepts are commonly used in The Capital Region Pharmacy to optimize and secure processes. In the future, it is recommended that new/reconditioned ward-based medicine rooms are designed according to LEAN concepts.

Purpose

The objective of this pilot project was to study whether a medicine room designed according to LEAN concepts could save nursing staff time and increase patient safety.



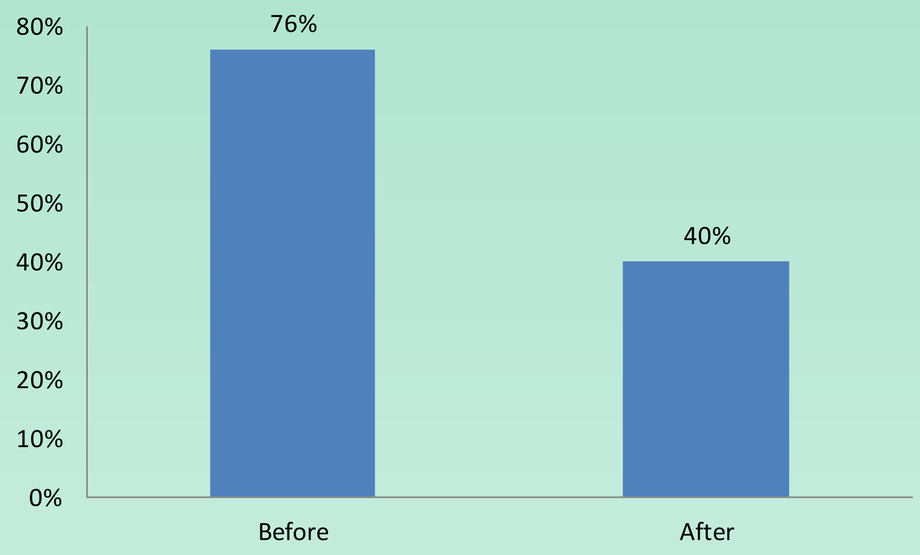
Picture 1

Picture 2

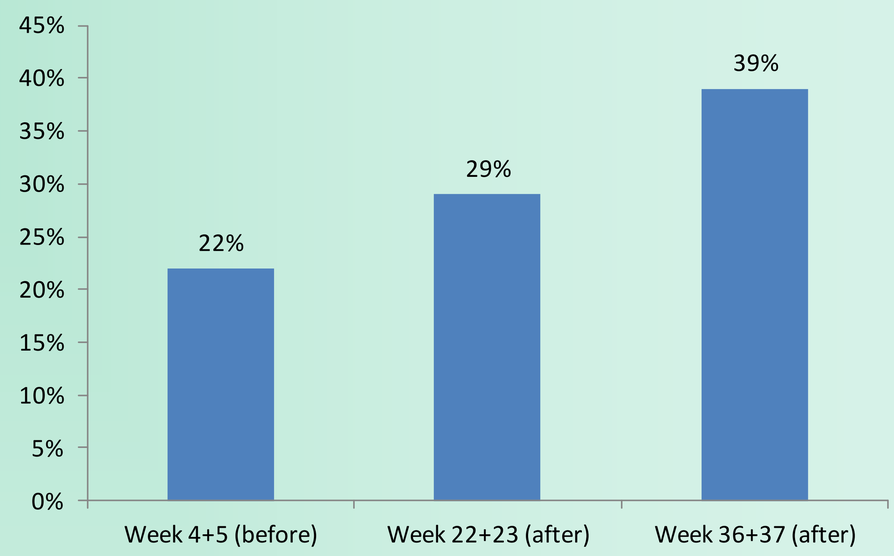
Picture 1. Specific label for each product showing relevant information in a standardised way.
Picture 2. Example of a shelf in a medicine room.

Material and methods

The pilot project was performed on a cardiology ward during spring 2014. The nursing staff was introduced to the LEAN concepts via an interdisciplinary workshop.
Before and after the LEAN implementation the nursing staff (n=24) answered a semi-structured questionnaire including: Time spent on medicine dispensing in day shift, general overview in the medicine room and the occurrence of disturbances related to arrangement of medicine. Usage rates of the bar-code verification in the medicine dispensing process were used as a proxy for the patient safety[1-2].



Graph 1. After LEAN implementation the nursing staff used less time on medicine dispensing (76% used more than 30 minutes before LEAN implementation compared to 40% after LEAN implementation).



Graph 2. Bar-code verification increased from 22% to 39% over a period of six months due to optimizing the arrangement of medicine in accordance to the concept LEAN in medicine room

Results

LEAN implementation released time in the medicine dispensing process as described in the literature[3]. After LEAN implementation 40%(n=10) of the nursing staff used more than 30 minutes during a day shift on medicine dispensing compared to 76% (n=18) before. By optimizing the arrangement of medicine, the bar-code verification increased from 22% to 39% after six months (proxy indicator for patient safety). The nursing staff reported that LEAN implementation resulted in a better overview and reductions in interruptions in the medicine room. Similar results are found in the literature[3-4].

Conclusion

A medicine room adapted to the ward workflows after LEAN concepts has resulted in released time in the medicine dispensing process and increased patient safety by encouraging the bar-code verification.

References

1:Poon EG, Cina JL, Churchill W, Patel N, Featherstone E, Rothschild JM, et al. Medication dispensing errors and potential adverse drug events before and after implementing bar code technology in the pharmacy. Ann Intern Med.19. 2006;145(6):426–34.

2:Ros JJ, Vreeze- Wesselink EJ. Reducing the number of dispensing errors by implementing a combination of CPOE system and barcode assisted dispensing system: the BAP concept. EJHP Sci. 2009(15):86–92.

3: Conrad C, Fields W, McNamara T, Cone M, Atkins P. Medication Room Madness: Calming the Chaos. J Nurs Care Qual. 2010:25(2):137-44.

4: Ching JM[1], Long C, Williams BL, Blackmore CC. Using Lean to improve medication administration safety: in search of the "perfect dose." Jt Comm J Qual Patient Saf. 2013:39(5):195-204.

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Henrik Ryge Nielsen, The Capital Region Pharmacy, Herlev, Denmark

Corresponding author

Winnie Soerensen: winnie.soerensen@regionh.dk

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DISCLOSURE STATEMENT: The authors have nothing to disclose