

To improve and reduce time for venepuncture procedure by using Computer On Wheels and phlebotomy drawer

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PROBLEM DEFINITION

Staff members communicated that they face *time wastage* preparing the necessary consumables required for venepuncture. This results in delay in carrying out treatments as treatments rendered are heavily dependant on blood investigation results. Staff members felt frustrated as they may have not gathered the sufficient amount of consumables resulting in going back to the preparation room once *again*.

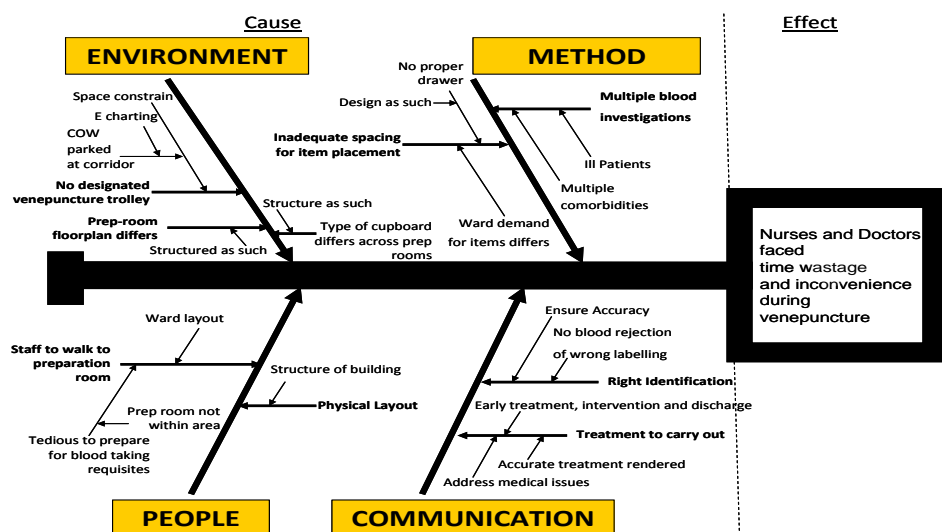
AIMS

The aims of this project are:

- To decrease time wastage by 40% of 12 minutes
- To eliminate the need of preparing consumables in the preparation room.

METHODOLOGY

Analyze: *Fish (cause and effect) diagram* was used to analyze the root causes of the problems. Using *criterion scoring*, top four top root causes are wrong blood sampling, no designated venepuncture trolley, tedious to prepare requisite and no proper drawer.



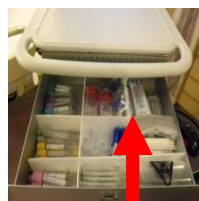
Develop: Based on the identified root causes, team members *brainstormed* for possible solutions.

Propositions were then evaluated using *tree diagram* on 4 factors - effectiveness, resource feasibility, operational feasibility and ease of implementation.

The final solution plan is to design a phlebotomy drawer that onto the Computer On Wheel.



(1) Drawer was designed and fabricated between keyboard and the COW table top.



(2) Drawer contains the necessary consumables required to perform venepuncture



(3) Sharp box placed by the side of the COW to facilitate disposal of sharp items / needles once venepuncture is completed



(4) Sharp box was designed that it can be turned inward and outward as this ensures that it is not an obstruction when parked along the corridor

METHODOLOGY (CON'T)



(5) CPOE printer that print out stickers that required blood investigations



(6) This tray holds yellow sheet and towel to avoid staining of blood on bed sheets



(7) An overview of the phlebotomy drawer on the COW with CPOE function

Nurses' workflow with the implementation of the phlebotomy drawer



(1) Nurse pushes the COW to patient's bedside for venepuncture to verify patient's identity before performing venepuncture



(2) With the implementation of the phlebotomy drawer, the nurse performing venepuncture retrieves the consumables effortlessly



(3) The nurse proceeds with venepuncture after verification of patient's identity



(4) The nurse disposed the used sharps into the sharp box readily



(5) The nurse prints sticky labels that indicates the ordered blood investigations



(6) Nurse verifies that the correct investigation is printed before dispatching to the laboratories for analysis



(7) Nurse pastes the sticker on the blood tubes after verification and sends it to the laboratories for sample analysis

This process with the use of the phlebotomy drawer *eliminates the need for the staff to travel to the preparation room* to gather the consumables. The phlebotomy drawer has sufficient amount of consumables required for venepuncture and thus, staff do not have to pace to the preparation room repeatedly. This reduces unnecessary motion and time saved can be channeled to other patient's needs.

RESULT

Ave. time taken to retrieve consumables for venepuncture:

Pre implementation = 12 minutes

Post implementation = 6 minutes

Time Saved = 6 minutes

Potential Saving in a year = 65,700 minutes / year

The need for going to preparation room to retrieve consumables for venepuncture is also eliminated.

CONCLUSION

This project created awareness of LEAN practices and highlighted the importance of ensuring items used frequently during venepuncture were easily accessible and within reach. With the time saved from the improved workflow, healthcare providers can better direct their attention to patient care, both in terms of clinical quality and service delivery.