

Project Title

Improvements to Organ Donation Workflow Using Order Sets

Project Lead and Members

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Organisation(s) Involved

Ng Teng Fong General Hospital

Aims

Reduce clinical team's time taken to order the tests so that the precious time can be utilised for other important clinical duties. Reduce delayed/ missed orders. Abolish the need of paper check-list. Reduce lost revenue by ensuring standardized charging workflow

Background

See poster appended/ below

Methods

See poster appended/ below

Results

See poster appended/ below

Lessons Learnt

Appropriate application of order sets can significantly improve the clinical work flows and improved efficiency, saving precious clinical time. Creating Order Sets is a

challenging task that requires multi-disciplinary inputs to be successful. It is important to monitor the impact, gather feedback and respond accordingly

Conclusion

See poster appended/ below

Project Category

Care & Process Redesign

Keywords

Ng Teng Fong General Hospital, Service Design, Quality Improvement, Improvement Tools, Plan Do Check Act, Order Set implementation

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IMPROVEMENTS TO ORGAN DONATION WORKFLOW USING ORDER SETS

MEMBERS: MS SHALINI MENON, MS YUEH LING LING, DR KANSAL AMIT, MS HERMIONE POH, DR TAN CHEE KEAT, DR GAMALIEL TAN

- SAFETY
- PRODUCTIVITY
- PATIENT EXPERIENCE
- QUALITY
- VALUE

Define Problem/Set Aim

Problem

Many mandatory (16 tests) and optional tests are ordered by doctors as one-time stat order in EPIC during the brain death certification process in the Intensive Care Unit. Some of these are external tests to be sent to non-NTFGH labs.

- The ordering process was marred by missed/delayed ordering despite using a paper check-list and required frequent modification of orders placed.
- Occasionally, organization revenue was lost for external tests since there was no notification to NTFGH labs.

Opportunity for Improvement

EPIC Order Set was deemed to be best suited for this situation of the one-time stat order to improve the efficiency of ordering process. EPIC Order Sets are collections of orders or steps aggregated in a single location and can save time in ordering and reduce variation in care. Therefore ICM team worked with the Medical Informatics department to create a new Order Set.

Aim

- Reduce clinical team's time taken to order the tests so that the precious time can be utilized for other important clinical duties.
- Reduce delayed/ missed orders
- Abolish the need of paper check-list
- Reduce lost revenue by ensuring standardized charging workflow

Establish Measures

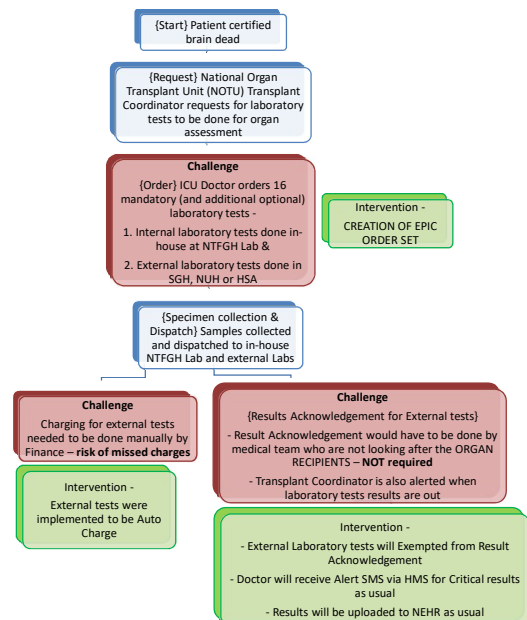
Based on a review of 5 cases in 2018, time taken to complete the ordering of all sixteen routine tests was significant and highly variable (from as little as 1 minute up to approximately 19 hours) as seen in the diagram.

This variation was observed despite using paper checklist and could be attributed to unfamiliarity of required orders. In case 3, there was addendum of required orders which contributed to the high length of time taken.



Analyse Problem

In the current NOTU process, ICU Doctors would place mandatory and optional tests to be done both internally and externally using a paper checklist. However, this increased the chances of missed/delayed ordering. As a result, the entire process took a significantly longer time than necessary.



Order Sets represent one clinical decision support (CDS) tool within electronic medical records that may promote safe and efficient patient care. Order Set development may be difficult and labor-intensive and Order Set success requires leadership, planning, and resources as well as ongoing maintenance and evaluation.

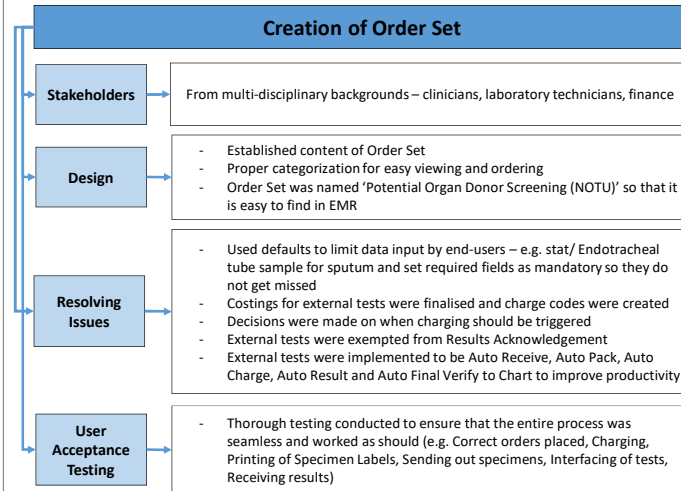
Select Changes

What are the probable solutions?

- Encourage use of paper check list
- Use EPIC Order Set

What are the solutions selected?

- EPIC Order Set



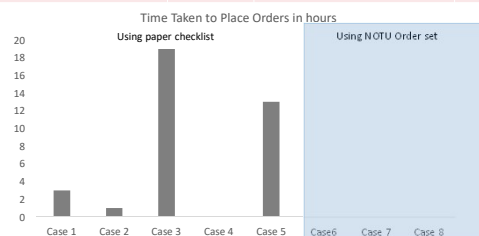
Test & Implement Changes

How do we pilot the changes? What are the initial results?

The 'Potential Organ Donor Screening (NOTU)' Order Set was implemented in ICU since January 2019. Time taken to order the sixteen tests was collected before (2017-2018) and after the Order Set implementation (2019).

The Order Set has been used in three organ donation cases since implementation and dramatically reduced the time taken to less than 1 minute with no missed tests.

CYCLE	PLAN	DO	STUDY	ACT
1	<ul style="list-style-type: none"> Reduce the time taken to order the sixteen 'routine tests' Zero missed 'routine tests' Reduce lost revenue by ensuring standardized charging workflow 	Implement the 'Potential Organ Donor Screening (NOTU)' Order Set	<ul style="list-style-type: none"> Significant improvement in time taken No missed orders Standardized charging for external tests Need identified - revise results acknowledgement workflow for external tests 	<ul style="list-style-type: none"> Order Set significantly improved the efficiency Results acknowledgement workflow for external tests was revised



Spread Change/Learning Points

The information about the Order Set implementation has been communicated via

- ICM Intra-department email blast & tiger-text messaging
- On-site reminder by the ICM Brain-death case manager
- Tip-sheets sent out to ICU Physicians on how to use the 'Potential Organ Donor Screening (NOTU)' Order Set

What are the key learnings?

- Appropriate application of Order Sets can significantly improve the clinical work flows and improved efficiency can thence save precious clinical time.
- Creation of Order Sets is a challenging task and requires multi-disciplinary input to be successful.
- Monitor impact, get feedback, and respond (e.g. Result Acknowledgement workflow revision during development of this Order set)