

Project Title

Transforming care using electronic handovers for A&E admissions to General wards

Project Lead and Members

Project lead: Ratnasari Yawieriin

Project members: Thng W.L., Chua S.H., Chang P.C., Sathiyah V., Leong S.M., Goh S.S,
Noribha A.R.

Organisation(s) Involved

Khoo Teck Puat Hospital, National Healthcare Group

Healthcare Family Group(s) Involved in this Project

Healthcare Administration, Nursing

Applicable Specialty or Discipline

Acute & Emergency Care, Operations

Project Period

Start date: 28 August 2023

Completed date: 16 October 2023

Aims

Using Next Generation Electronic Medical Records (NGEMR) system which has an integrated system with harmonized processes of patient's records across different care settings to achieve a cohesive alternative Nursing handover style to improve efficiency of Nurses. The team has started since in 28/8/2023 and project has implemented on 16/10/2023.

Background

Cross-institutional clinical reinforcement had to cease during the Pandemic, and this resulted in challenges for our partners in managing chronic wounds. As such, the team at SLH wanted to benefit the community care sector by leveraging on technology to reinforce clinical care. The team collaborated with different partners receiving our wound consultancy services to bring about innovation system change, allowing wounds to be tracked remotely via a portable wound scanner and pivoting face-to-face training to a hybrid mode of learning.

Methods

See poster appended/below

Results

Time motion study was carried out over a period of 5days post the implementation of electronic handover to analyse the movement of patients. The objective of the study is to:

- Find out the weightage of patients requiring transfer by trolley versus by wheelchair.
- Find out the percentage of patients transferred by Nurses/ Agency Nurses/ Patient's Care Officer (PCO)/ Porters
- The average handover time. Before implementation, the transfer and physical handover duration was 30 to 45 mins.

Conclusion

The team continued to engage with all stakeholders, to seek feedback from both A&E and inpatient team on the new process. A post 2 months collection of staff feedback and exclusion criteria has been reviewed to exclude patient on infusion pumps only with IV addictive or High alert medication or with ongoing blood transfusion with effect on 29/01/2024.

Project Category

Care & Process Redesign

Productivity, Time saving

Training & Education

Learning approach, Collaborative Learning, Microlearning

Keywords

A&E admission, handover, patient transfer

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Transforming care using electronic handovers for A&E admissions to General wards

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MISSION STATEMENT

Using Next Generation Electronic Medical Records (NGEMR) system which has an integrated system with harmonized processes of patient's records across different care settings to achieve a cohesive alternative Nursing handover style to improve efficiency of Nurses. The team has started since in 28/8/2023 and project has implemented on 16/10/2023.

TEAM MEMBERS

Team Members' Particulars		
Salutation & Name	Designation	Organisation
Ms Noribah Abdul Rahman	Assistant Director of Nursing	Acute & Emergency Care Centre, Khoo Teck Puat Hospital
Ms Ratnasari Yawieriin	Senior Nurse Manager	Acute & Emergency Care Centre, Khoo Teck Puat Hospital
Ms Lynette Thng Wei Ling	Senior Nurse Manager	Inpatient Nursing, Khoo Teck Puat Hospital
Mr Chua Soon Huat	Senior Staff Nurse	Acute & Emergency Care Centre, Khoo Teck Puat Hospital
Ms Chang Poh Jin	Senior Staff Nurse	Acute & Emergency Care Centre, Khoo Teck Puat Hospital
Ms Loh Pey Lin	Nurse Clinician	Acute & Emergency Care Centre, Khoo Teck Puat Hospital
Ms Sathiya Veeraraghavan	Senior Nurse Manager	Inpatient Nursing, Khoo Teck Puat Hospital
Ms Aisyah Nasir	Nurse Clinician	Inpatient Nursing, Khoo Teck Puat Hospital
Ms Nurhayanti Bte Sulaiman	Assistant Nurse Clinician	Inpatient Nursing, Khoo Teck Puat Hospital
Ms Bernice Leong Su Min	Assistant Director, Operations	Acute & Emergency Care Centre, Khoo Teck Puat Hospital
Ms Kathleen Koh Yin Yee	Senior Executive, Operations	Acute & Emergency Care Centre, Khoo Teck Puat Hospital
Ms Shirley Goh Shini	Senior Executive	Portering, Operations Support Services, Khoo Teck Puat Hospital
Ms Cruz Katherine Ko	Patient's Care Officer	Acute & Emergency Care Centre, Khoo Teck Puat Hospital
Ms Nur Ilyana Bte Mohamed Salleh	Senior Executive Assistant	Acute & Emergency Care Centre, Khoo Teck Puat Hospital

EVIDENCE OF A PROBLEM WORTH SOLVING

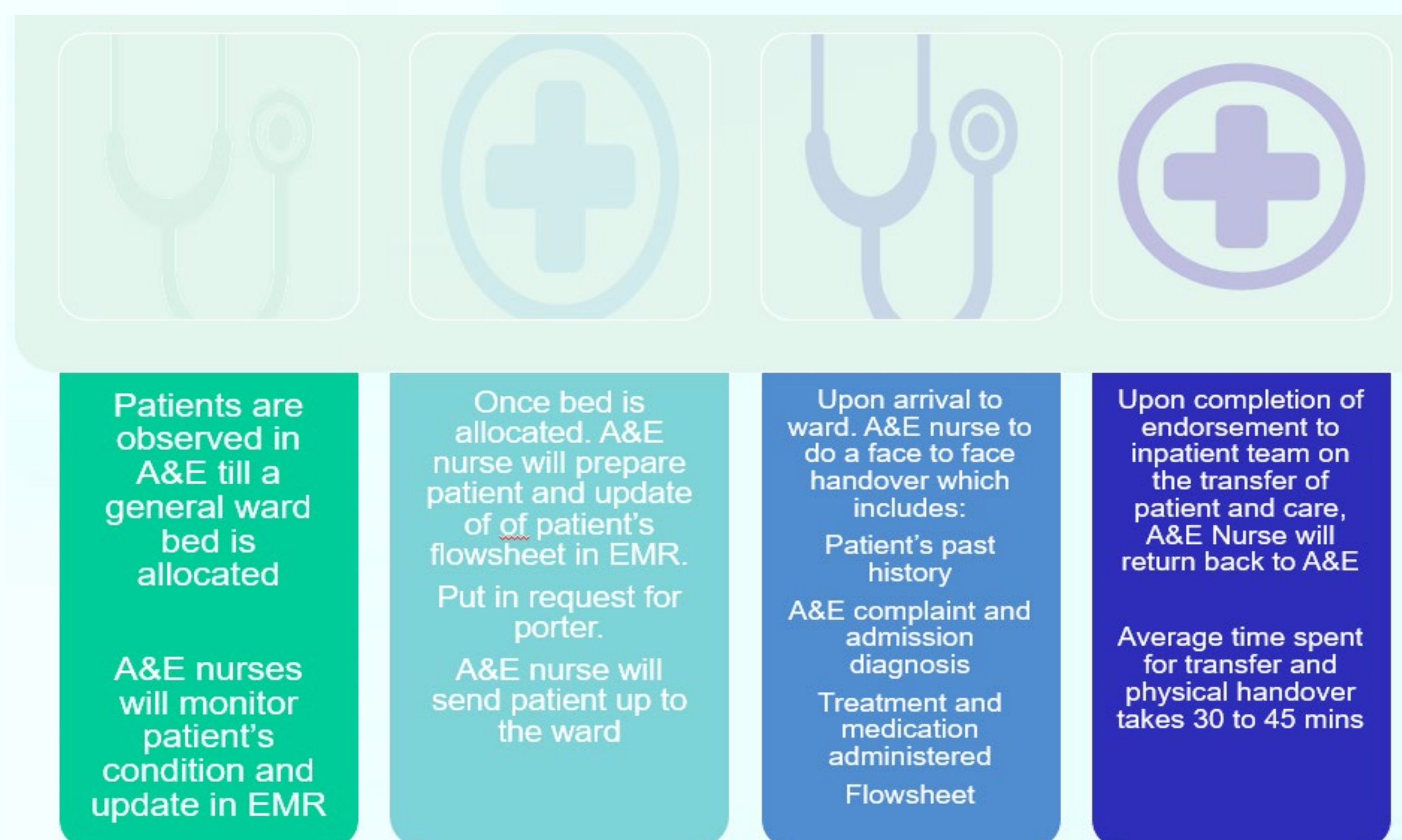


The A&E sees an average 300 patients per day with 80 to 100 required admissions to Inpatient general wards. With the increased in A&E attendances and A&E admission cases, A&E nursing manpower is also faced with a huge challenge to provide care with an overcrowding situation.



Traditional physical nursing handovers of crucial information between A&E to inpatient team takes an average 30 to 45 minutes which requires an A&E Nurse to leave the care area to transfer patient to the respective ward and performs the face-to-face handover.

FLOWCHART



METHODOLOGY & INTERVENTION



Changes needed to for care transformation:

- Systematic review on the structured handover between the A&E and inpatient team to establish the electronic Handover process and established the exclusion criteria for EDIP Electronic Handover
- A&E Credential trainers explored the creation of EDIP Handover using SmartPHASE as a structured handover template that pull patient's existing information and data required by Inpatient team for the continuity of care. A&E conducted a series of Nursing in-service sessions for A&E nurses to know the capability of SmartPHASE and to add themselves as a user.
- To allow Nurses to adopt to the new implementation, the team takes 3 weeks to do the presentation and address all concerns of nurses at various platforms; Nursing Management meeting, Nurses Journal club, Inpatient RN EN meetings and department roll calls.
- With electronic handover, A&E core team also simultaneously worked with A&E operations to review on existing Portering support services. With the implementation of electronic handover, Portering coverage and manpower have been increased.

RESULTS

Electronic Handover		WEEK 1							WEEK 2							WEEK 3						
Start Date: 28/08/2023		M	T	W	TH	F	SA	SU	M	T	W	TH	F	SA	SU	M	T	W	TH	F	SA	SU
DEVELOPMENT	3 weeks																					
Established of objectives	1 week																					
Review of current process	1 week																					
Established of exclusion criterias and electronic handover process	1 week																					

Electronic Handover		WEEK 4							WEEK 5							WEEK 6						
Start Date: 28/08/2023		M	T	W	TH	F	SA	SU	M	T	W	TH	F	SA	SU	M	T	W	TH	F	SA	SU
PRE-IMPLEMENTATION	3 weeks																					
Briefing of electronic handover process	3 weeks																					
Sought supporting service	2 weeks																					
Portering to review on current A&E support and coverage	2 weeks																					
IMPLEMENTATION	16/10/2023																					

Time motion study was carried out over a period of 5days post the implementation of electronic handover to analyse the movement of patients. The objective of the study is to:

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The results of the study as per the table below:

Date	Sample size (number of patients)	Percentage by A&E Nurse	Percentage by others (PCO/Agency Nurses/ Porter)	Trolley	Wheelchair	Average of duration (mins)
16/10/2023	29	3%	96%	83%	17%	20
17/10/2023	31	10%	90%	55%	45%	15
18/10/2023	36	20%	80%	81%	19%	21
19/10/2023	38	6%	94%	76%	24%	20
20/10/2023	31	20%	80%	71%	29%	13
Average				73%	27%	18

The average transfer and handover duration has improved from 30 to 45 mins to 18 mins which a significant time saving of 12 to 27 mins.

EFFECT OF CHANGE

The implementation of the electronic handover has enabled:

- For A&E team, all are favourable with the care transformation using electronic handover. The implementation has come in timely to relieve nurses to continue with existing patients' care and management especially during the overcrowding A&E situation and a tight nursing workforce.
- For Inpatient team, nurses are able to adopt and adapt to the new handover process with more quality time are used to follow up with the transfer of patient and care.
- For Peri operation team, nurses are able to accept phone handover and endorsement in EMR.
- For patients, a positive patient experience as patients who fulfilled the electronic handover will be transferred to the ward much faster by either porter/ PCO/ HCAs.

STRATEGIES FOR SUSTAINING THE GAINS

The team continued to engage with all stakeholders, to seek feedback from both A&E and inpatient team on the new process. A post 2 months collection of staff feedback and exclusion criteria has been reviewed to exclude patient on infusion pumps only with IV addictive or High alert medication or with ongoing blood transfusion with effect on 29/01/2024.

LESSONS LEARNT

Lessons learned:

- Nomination of core team members to include subject experts, for this care transformation, we have included the A&E ASAP Credential trainers and Super users.
- Comparison of practice. The core team has done some benchmark of current practice for nursing handovers with other restructured hospitals.
- Data collection process of pre and post implementation are important and is only possible with the support of A&E operations. Time motion study was done with the help of duty A&E PCOs and Agency nurses.
- Early engagement of supporting unit Portering services is beneficial. Engaging portering team on the impact with the implementation of electronic handovers, portering team is able to review on the current headcount and shift coverage.
- The continuous engagement with Inpatient and Peri operation nursing team has helped to anticipate challenges and obstacles.