

Project Title

Nursing Workforce Transformation: Nurses Beyond Nursing, Nursing Beyond Nurses

Organisation(s) Involved

Tan Tock Seng Hospital

Lessons Learnt

Healthcare needs to move to a team-based, multi-disciplinary and inter-professional model of care. Job/role redesign is best conducted in an integrated approach involving care and process redesign to reduce waste and adoption of appropriate technology to reduce costs of labour.

Project Category

Workforce Redesign, Care Redesign

Keywords

Workforce Redesign, Care Redesign, Workforce Transformation, Role Redesign, Quality Improvement, Automation and Technology, Staff Empowerment, Job Up-skilling, Job Value Expansion, System-level Innovation, Productivity, Lean Methodology, Staff Satisfaction Score, Patient Satisfaction Score, Patient and Volunteer Feedback, Quality of Care, Access of Care, Tan Tock Seng Hospital, Nursing, Nurses Beyond Nursing, Nursing Beyond Nurses, Ward of the Future, Infrastructural Refurbishment, Decentralised Workstations, Medical Device Integration System, Aggregate Warning Score System, Early Rescue of Clinical Deterioration, Cubicle-based Nursing, Nurse-led Ward Round of the Future, Patient Self Care, Patient Activation, Team-based Care, Multi-disciplinary Model, Inter-professional Model, Design Thinking, Nursing Shared Governance, Principal Nurse, Ward Resource Nurse, Geriatric Resource Nurse, Hospital Elder Life Programme, Patient Service Associates

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HEALTH SYSTEM INNOVATION AND IMPROVEMENT

Ko Awatea International Excellence in Health Improvement Awards 2016 Entry Template

The total word limit for each entry is 1500 words, including references but excluding registration details.

Your Name: Jeraldine Koh
Nominee Name: Dionne Liew
Organisation Name: Tan Tock Seng Hospital
Country: Singapore
Contact Person: Jeraldine Koh
Are you Nominating: Yourself / Someone else
Your Email Address: geraldine_koh@ttsh.com.sg
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Which Award Are You Entering?

Individuals Awards

- Award for Leading Sustained Quality Improvement
- Award for Assuring Quality of Healthcare Standards
- Award for Outstanding Leadership in Quality Improvement

Team/Organisational Awards

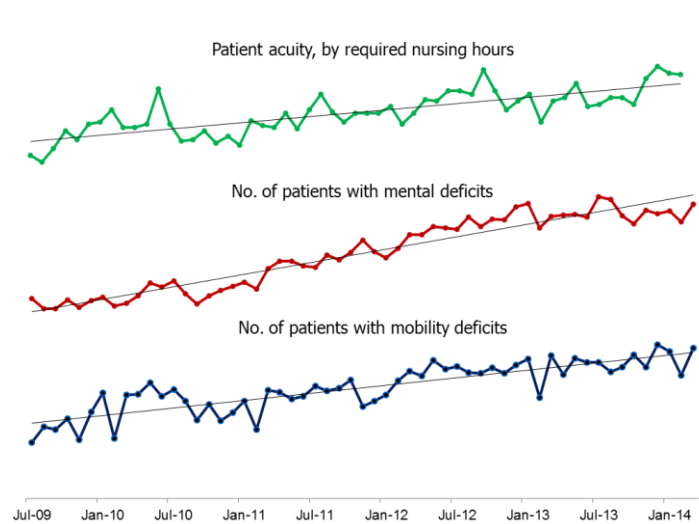
- Award for Citizens at the Centre of Service Re-Design and Delivery
- Award for Developing a Flexible and Sustainable Workforce
- Award for Improving Patient Safety
- Award for Promoting Clinical Research and Application to Practice
- Award for Working Seamlessly Across Organisations

Please complete each section below. The total word limit is 1,500, including references. There is no limit per section

Award entry title

Nursing Workforce Transformation: Nurses Beyond Nursing, Nursing Beyond Nurses.

Brief context of work undertaken



By 2030, 18% of Singaporeans will be 65 years and above. To care for an increasing number of elderly patients with complex co-morbidities, TTSH (Tan Tock Seng Hospital) needs to address the rising expectations on medical and nursing care.

As the backbone of healthcare, nurses must remain competent in order to lead the profession and improve patient-centric outcomes. TTSH Nursing Division adopted the strategy “*Nurses Beyond Nursing, Nursing Beyond Nurses*” to transform its workforce so that nurses can practise at the top of their licence, enhancing their contributions. This strategic thrust involves 3 key steps: improving **nurses’ availability** through care and process redesign; fostering **innovation** through automation and technology to reduce waste and costs of care; and undertaking **role redesign** to enable nurses to deliver higher values of care.

Brief outline of issue identified

More than 50% of patients admitted to TTSH are above 65 years old. This number will continue to increase with a rapidly ageing population. Prolonged stay, institutionalization and higher rates of readmissions will increase healthcare costs if our healthcare system continues with its current mode of operations.

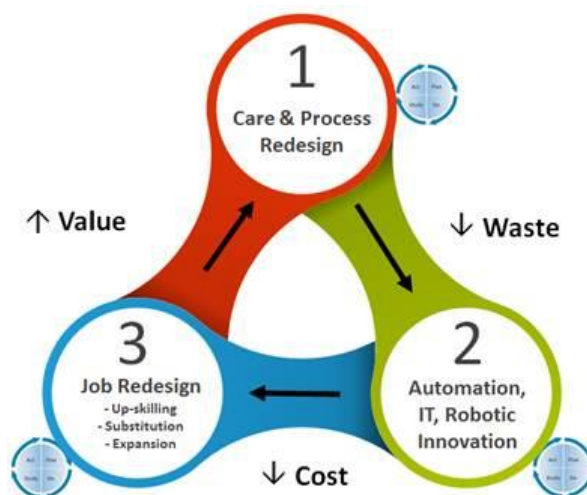
Year	% of TTSH inpatients admissions that are:					
	65 – 69 years	70 – 74 years	75 – 79 years	80 – 89 years	90 yrs & above	Total (> 65 years old)
2003 (n=38239)	8.2%	9.3%	8.2%	13.7%		39.4%
2012 (n=55764)	8.6%	11.1%	10.2%	15.5%	4.2%	49.6%
2013 (n=56340)	9.4%	10.4%	10.3%	16.0%	4.7%	50.7%

Assessment of issue and analysis of its cause/s

Besides scaling up on infrastructures to cope with the increasing healthcare demands, both capacity and capability of nurses have to be strengthened. A paradigm shift embracing innovative cycles will be required to increase the magnitude of improvement and strengthen work productivity.

Strategy for change

A general purpose framework-**Innovation cycle** was developed to leverage on System-Level Innovation, representing different aspects of enabling productivity.



Stage 1: Care & Process Redesign

- Main focus: improving nurses' availability to better manage patients with complex care.
- Using Lean and Design Thinking tools to reduce waste and increase patient value
- A key example is the Ward of the Future (WoF) project where Infrastructural refurbishment of the wards enabled care and process redesign.
 - Nursing workstations are decentralised to each ward cubicle, providing nurses with a line of sight to their patients.
 - Each station equipped with frequently-used items like computers, telephone and common consumables
 - En-suite toilets are installed in each cubicle to reduce distance travelled by patients and ensure safety.

Stage 2: Technology

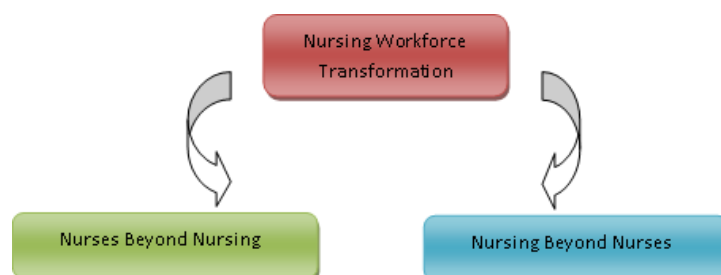
- Technology is a key enabler in consolidating, enhancing and sustaining the changes made in Stage 1.
- For example:
 1. **Medical Device Integration (MDI) system** provides auto-population of patient's vital signs into the electronic monitoring chart. This resulted in a reduction of manual entries which prevented transcription errors, thereby saving nurses time for patient care.
 2. **Aggregate WARNING Score (AWAS) system** is used for early Recognition, early Trigger and early Rescue of Clinical Deterioration. It strengthens nurses' clinical assessment through pattern recognition, and also helps to enhance patient safety and reduces incidents of false alarms.

To stimulate and upkeep the innovation and improvement in Stages 1 and 2, the **Nursing Shared Governance Council** was implemented to harness the capacity and capability of our nurses. Structures and processes were established to give nurses a voice in defining their practice, standards and quality of care.

The empowerment of frontline nurses, over the last 4 years, consequently led to increased quality improvement initiatives and innovations at unit level. In 2015, a total of **87** shared governance projects were initiated– a testament to its effectiveness and empowerment.

Stage 3: Job Redesign

- Two key approaches for nursing workforce transformation are “**Nurses Beyond Nursing**” and “**Nursing Beyond Nurses**”.
 1. *Nurses Beyond Nursing* focuses on job up-skilling and job value expansion for nurses, and involves doing more with the same.
 2. *Nursing beyond Nurses* aims to extend impact of nursing care through training and empowering support staff and/or informal caregivers.



1. Nurses beyond nursing

Job redesign has increased time for direct patient care, providing more meaningful work for nurses.

The WoF project has enabled **Cubicle-based nursing** concept to be developed – leveraging on the decentralised nursing stations, each Principal Nurse (**PN**) is responsible for the care, coordination and engagement of the five patients in each cubicle. The PN also conducts the **Nurse-led Ward Round of the Future (WRoF)** together with the primary physician to ensure that care plans are consolidated and centred on patients.

In addition, opportunities arose to expand/create new roles such as the Ward Resource Nurse (**WRN**) and Geriatric Resource Nurse (**GRN**).

The WRN represents the future role of all ward-based Registered Nurses. As a resource person, the WRN coordinates and oversees the complex care and discharge planning needs of the patients in the wards, reducing the need to refer patients and family to multiple care coordinators and reduce process costs.

The GRN acts as a clinical resource person in geriatric care and spurs her nursing peers to embed geriatric-sensitive care in their practice.

2. Nursing beyond nurses

Nursing beyond nurses elaborates on job substitution- doing more/ same with less.

In the course of their work, the GRNs started the **Hospital Elder Life Program (HELP)** to provide daily essential care. Volunteers were trained to utilize HELP interventions when they interacted with elderly patients to reduce the risk of delirium through the use of non-pharmacological methods.

Patient Service Associates (PSAs) jobscope were expanded to take on routine nursing work like discharge process. PSAs underwent training to remove intravenous cannulas so that they are equipped with the clinical skills to initiate bedside discharges independently.

Patients were also roped in to play a more active role in self-care and conditioning themselves for discharge. One of the Shared Governance initiatives looked at empowering appropriate patients to keep track of the amount of fluid and food they consume. Nurses created a set of standard measurements and provided patients with a chart with clear picture-based categories for them to note down their own intake and output. 80% of patients who met the criteria practiced self-charting. Consequently, the clinical team got a more accurate record with patients developing greater awareness for their own care.

Measurement of improvement

The effectiveness of the Nursing Transformation workforce was measured through several methods like:

- Staff Satisfaction Scores (Hospital Biennial Employee Climate Survey)
- Nursing Attrition rates
- Staff Sick leave percentage

- shared governance projects initiated by nursing councils
- Patient/ Volunteer feedback
- Inpatient falls rate

Effects of changes

The various improvements have had direct impact on service quality and patient care.

Findings from the Employee Climate Survey (Pre-WoF (2010) and Post-WoF (2015)) showed:

- Patient Satisfaction Scores increased from 80.2% to 87.2%
- Nurses now walk an average of 3.9km less during their shifts, significantly increasing time spent on patient care by 24.8%.
- Nurses Job satisfaction increased from 57% to 63%, while attrition rate decreased from 8 to 6%.

Under the HELP program, GRNs trained volunteers to sit patients out in bed for early mobilization, conduct therapeutic activities, correct sensory impairments by assisting them to wear spectacles and hearing aids, provide reminders on date and time for reality orientation, advocate for adequate sleep and offer regular drinks to encourage hydration. 163 volunteers were trained, contributing 528 hours of patient care. Patient and Volunteer Feedback have been positive:

- “My dad is less restless, I really appreciate your effort.”
- “These activities are beneficial to stimulate my mother’s mind. This is the first time I see a hospital doing this.”
- Volunteer: I can “do much more than ...sitting and chatting with a patient”.

With PSAs up-skilled to initiate the discharge process, patients no longer need to wait up to 30 minutes for an RN to be available to discharge them.

In one unit, GRNs’ promoted the older adults’ function through the reduction of inappropriate use of continence aids. This had significant results on return to pre-morbid function, reduction of diaper-use days, UTI rates and length of hospital stay.

Groups	Control (n=50)	Intervention (n=73)	p Value
Wean off diaper			
Yes, n (%)	31 (62%)	67 (92%)	p= 0.000*
Mean diaper used days	9.2 (7.9)	3.8 (7.2)	p= 0.000*
Return to pre-morbid function			
Yes, n (%)	21 (42%)	67 (92%)	p= 0.000*
Did not develop UTI, n (%)	43 (86%)	71 (97%)	p= 0.030*
Mean length of hospital stay (days)	14.8 (12.3)	9.6 (8.7)	p= 0.002*

The WoF's Infrastructural refurbishment together with the Cubicle-based nursing concept also sustained improved patient and staff satisfaction outcomes.

Categories	Key Performance Indicators (KPIs)	Pre Change	Post Change (Result Y2015)	Change
Improved patient safety and quality of care / Improved infection control capability	Average time to respond to nurse call	53Secs	39 Secs	↓14Secs
	% Medication error	0.09	0.07	↓0.02
	Participation of Nurses in Ward Round	63%	90%	↑27%
	Falls rate (per 1000 patient days)	1.2	0.87	↓0.33
	Result of Patients Satisfaction Score: Care coordination	71%	88.8%	↑17.8
	Total distance travelled by a registered nurse during a shift	8KM	4.1KM	↓3.9KM
	Patients Satisfaction Score: Care and concern by nurses	80.2%	87.2%	↑7%
	Patients Satisfaction Score: Clear explanation of procedures by staff	74.8%	85.6%	↑10.8%

Nurses were more engaged through shared governance. At systems level, there have been improvements in patient falls rates, patient/ staff satisfaction scores and reduction in staff sick leave percentage.

Inpatient Falls Rate (Number of Falls/1000 patient days)

Year	2012	2013	2014	2015
Falls Rate	1.29	1.12	1.14	0.87

Staff Sick Leave Percentage

Year	2011	2012	2013	2014	2015
Sick Leave	2.77%	2.38%	2.4%	2.33%	2.11%

Staff Satisfaction Score (Hospital Biennial Employee Climate Survey)

Year	Empowerment	Communication	Work Relationship
2013	71%	59%	61%
2015	76%	64%	71%

Nursing Attrition Rates

Year	2010	2015
Attrition	8 %	6%

TTSH is amongst the first Singapore hospitals to practise Nursing shared governance. We are also the first to introduce nursing elections to the Shared Governance Structure. To date, we have shared our program locally and overseas with hospitals like National University of Hospital, Institute of Mental Health, Siriraj Hospital Thailand, Association of Thai Private Hospital, Bumrungrad International Hospital and Wockhardt hospital system, India.

Lessons learned

Healthcare needs to move to a team-based, multi-disciplinary and inter-professional model of care. Job/role redesign is best conducted in an integrated approach involving care and process redesign to reduce waste and adoption of appropriate technology to reduce costs of labour.

Message for others

The strategic thrusts of *“Nursing beyond Nurses”* and *“Nurses beyond Nursing”* can spur a virtuous cycle of growth and innovation to deliver better healthcare value. However, this should not be done with the sole purpose to increase productivity – it should be implemented with concurrent aims to improve the quality of care and purpose of the job to sustain the impact of improvement.

Please tell us what winning this award would mean to you/your organisation

This award will be a strong testimony of the systematic and sustainable approach Nursing has undertaken to transform the nursing workforce to stay versatile and future-ready.

Upload a high quality photo illustrating your entry which may be used in publicity material



Total word count: 1495 words