CENTRE FOR HEALTHCARE INNOVATION

CHI Learning & Development System (CHILD)

Project Title

Improving Accessibility to Palliative Care Services: A Palliative-NICU Collaboration

Organisation(s) Involved

Tan Tock Seng Hospital

Project Period

Start date: 10-2014

Additional Information

Best Project Award at NHG Quality Day 2015

Project Category

Process Improvement, Quality Improvement, Care Redesign

Keywords

Care & Process Redesign, Quality Improvement, Access to Care, Improvement Tools, Plan-Do-Study-Act, Palliative Care, Intensive Care Unit, , Referral Rate, Tan Tock Seng Hospital, Palliative Medicine, Multi-disciplinary Team Engagement, Standardized Workflow, Quality End-of-life Care, Physical Symptom Management, Effective Communication, Realistic Goals of Care, Patient & Family-centred Decision-Making, Psychosocial & Emotional Support , Withdrawal of Life-sustaining Treatment, Terminal Discharge, Continuity of Care Post ICU, Reduce Length of Stay, Cause and Effect Analysis, Cost Savings, Beyond Quality to Value, Staff Training

Name and Email of Project Contact Person(s)

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Asian Hospital Management Awards 2017

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Clinical Service

A clinical practice improvement project that was successfully completed in any of the specialized (technical) areas of hospital management, such as Nursing, Laboratory, and Radiology or in specialty clinics such as eye center, kidney center, etc. The project should show measurable results of having improved diagnostics and treatment with little or no capital outlay. More weight is given to projects where clinical outcomes are measured and how well are these measurements used – or how involved where the physicians in the project. Is there a program to improve the quality of the doctor-patient relationship? Is there a discernible focus on improving different aspects of the patient physician interaction?

Complete All Information Below:

Project Title (Maximum 256 Characters):
Improving Accessibility to Palliative Care Services: A Palliative-NICU Collaboration

Date Project Started (Maximum 128 Characters) (i.e. May 24, 2015):
6 October, 2014

Department Name (Maximum 256 Characters):
Department of Palliative Medicine, Tan Tock Seng Hospital
Anaesthesiology, Intensive Care and Pain Medicine, Tan Tock Seng Hospital

Names of Key Staff Involved in this Project (Maximum 512 Characters) (Separate names with comma):
Adj A/Prof Poi Choo Hwee, Adj A/Prof Tan Hui Ling, Dr Wong Yu Lin, Dr GuChunguang, Ms Wendy Ong, Ms Fionna Yow, Ms Eileen Ho

1. **Provide some background as to how the project originated e.g. what problem/opportunity were you faced with.(Maximum number of words – 350)**

Palliative Care plays an important role in caring for the critically ill in Intensive Care Unit (ICU). Despite technological advancement, mortality and morbidity rate remains high with one in five patients not surviving the ICU[1][1]. Critically ill patients may suffer from both physical and emotional consequences of aggressive supportive technologies[2][2].

The Palliative-NICU collaboration aims to improve:

1) the referral rate for patients with poor prognosis in NICU; and
2) the accessibility of Palliative Care services to patients in all four ICUs in Tan Tock Seng Hospital (TTSH), namely Neurosurgical ICU (NICU), Medical ICU (MICU), Coronary Care Unit (CCU), and Surgical ICU (SICU).

The team achieved these aims through:

- revision of referral criteria;
- standardising workflow for referral;
- incorporating daily screening by NICU nurses; and
- continual engagement of multi-disciplinary teams.

The referral rate to Palliative Care increased from 30% to 100% within 6 months, improving the accessibility of Palliative Care services to patients with poor prognosis in NICU. To date, Adj A/Prof Poi and her team have cared for 642 patients to die in peace and dignity, and some even in the comfort of their own bed at home from 2014 - 2016.

Adj A/Prof Poi led a team of dedicated physicians and nurses from the Palliative Care team and ICU team in providing high-quality end-of-life (EOL) and palliative care for the critically ill in TTSH. Leading by example, A/Prof Poi and her team exemplify exceptional qualities and devotion in helping patients and families through difficult and stressful times, moving healthcare beyond hospital to community.

[1][1]Adhikari NK, Fowler RA, Bhagwanjee S, Rubenfeld GD. Critical care and the global burden of critical illness in adults. *Lancet* 2010; 376:1339-46.
[2][2]Nelson JE. Palliative care of the chronically critically ill patient. *Crit Care Clin* 2002; 18(3): 659-81.

2. **Describe what was required to address the aforementioned problem/opportunity. Outline what your targets/goals were and whether any approach was outlined to correlate this program with better clinical service from the patient's perspective. Also, provide an overview of the team that was put together to undertake this and how involved the physicians were in the project. (Maximum number of words – 350)**

Palliative care has a role in the care of critically ill in ICUs in the following aspects:

- Assessment and management of distressing physical symptoms
- Communication within team and with patients/ families regarding EOL issues
- Establishing realistic goals of care via patient- and family-centred decision-making process
- Psychosocial and emotional support for patients and families
- Spiritual support for patients and families

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[1]Adhikari NK, Fowler RA, Bhagwanjee S, Rubenfeld GD. Critical care and the global burden of critical illness in adults. Lancet 2010;376:1339-46.
[2]Nelson JE. Palliative care of the chronically critically ill patient.Crit Care Clin 2002;18(3): 659– 81.

- Provision of continuity of care in post-ICU period
- Provision of independent opinion in supporting ICU team in ethically challenging medical decision-making

Humanising the clinical experience for patients and families in the ICU may improve family emotional outcomes and reduce ICU length of stay and treatment intensity[3][3]. The project target was to improve referral rate from 30% to 100% to palliative care for patients with poor prognosis in NICU within 6 months, and establish a common screening tool and referral criteria. The goal is to improve accessibility of palliative care services using the same model of care to trigger referrals from four ICUs in TTSH.

Using the Plan-Do-Study-Act (PDSA) principles, the following interventions were incorporated to standardise workflow for referral to palliative care:

1) Establishing referral criteria (in NICU)

a. Hypoxic ischemic encephalopathy
b. Severe head injury with poor neurological prognosis
c. Extensive intra-cranial haemorrhage / subarachnoid haemorrhage
d. Low presenting GCS of ≤ 6

Patients are referred once they meet one of the above criteria.

2) Incorporating daily screening by NICU nurses

NICU Nurse in-charge would trigger the referral to palliative care once patients meet the above criteria.

3) Continual engagement of multi-disciplinary teams

Through integrated palliative care-ICU rounds, formal ICU rounds allowed the palliative and ICU team to meet to discuss patients suitable for referral. Palliative team provided care for patients in the post-ICU periods and continued to provide feedback to primary surgical and intensivists on progress and outcomes of these patients.

[3]Adolph *et al.* Palliative critical care in the intensive care unit: A 2011 perspective. *Int J Crit Illn Inj Sci* 2011:1(2): 147-53.

[3]Adolph et al. Palliative critical care in the intensive care unit: A 2011 perspective. International Journal of Critical Illness & Injury Science 2011:1(2): 147-153.

3. **Outline the steps or stages of the project and how these were executed by the team. (Maximum number of words – 300)**

1) **Understanding the cause and effect**
   The team conducted a cause and effect analysis to understand and identify the objectives and processes. Using a targeted improvement approach, the team established the problems to address (refer to Figures 1 & 2 of Annex).
2) **Intervention Phase**
   The Palliative Care team carried out interventions in stages using the PDSA principles and examined the interventions (refer to Figure 3).
3) **Results**
   The team achieved its target in improving the referral rate to Palliative Care in NICU, which increased from 30% to 100% within 6 months (refer to Figures 4 & 5).

With the initial success of Palliative-NICU Care Collaboration, the Palliative team continued to spread their work with the rest of the ICUs. Through multimodal intervention, the Palliative Care team has managed to spread the successful workflow to the remaining ICUs (MICU, CCU, and SICU).

i) Screening Rounds in all ICU

Please refer to Table 1 (Annex) on schedule for Palliative-ICU rounds.

ii) Establishing Referral Criteria in all ICU

This is to include patients who are dying or with poor prospect of meaningful recovery for all four ICUs in our hospital (Table 2).

iii) Formalising protocol on withdrawal of life-sustaining treatment for the dying patient

This ensures symptoms minimisation for patients who are suffering from distressing physical symptoms in the ICU.

All the above help to ensure that in circumstances where life-sustaining support is futile and no longer beneficial, patients and their family can have access to palliative care for symptoms management, emotional support, establishing realistic goals of care through patient and family-centered decision-making and continuity of care in post-ICU period.

4. **Demonstrate the results of the project and how this was beneficial for the patient. How did you measure this? Present quantifiable information such as before and after measurements and percentage improvement. (Maximum number of words – 200)**

Cost-savings

From 2013 to 2016, the approximate reduction of LOS in ICU (1.4 days) and Hospital (32.9 days) have led to cost-savings (Tables 3 and 4).

Results of Implementation in all four ICUs

Through the use of the referral criteria with regular ward rounds, the number of referrals increased from 80 (2013) to 157 (2014), 262 (2015) and 223 (2016) (Figure 6).

Prospective Follow-up of 223 ICU patients referred to Palliative Care in 2016

Refer to Table 5 for demographics of referred ICU patients.

Facilitating Family Conferences

Adj A/Prof Poi and her team facilitated over 159 family conferences and provided symptoms control for ICU patients (Figure 7).

Providing Symptoms Control and Continuity of Care

The team provided continuity of care in post-ICU period either in EOL room* or general ward (Figures 8 and 9).

*EOL room is a private room designed for dying patients to spend time with their loved ones.

Enabling Terminal Discharge from ICU to Home

The team also assisted five patients for terminal discharge from ICU to home; one patient transferred back to his overseas home. They consistently provide support on transition of care and advice on discharge plans for patients who survived ICU admission (Figure 10).

5. **Please give any other information, including third party testimonial regarding your project which you think would help convince the judges that this project (or program) should win this category. (Maximum number of words – 300)**

The Palliative-NICU collaboration confers important benefits to both patients and families in providing continuous support and engagement that extends to the post-ICU period where terminal care and care co-ordination become important. The Palliative Care team complements the ICU to improve accessibility of services to the patients and provide continuous and inter-disciplinary team-based care both in and out of the ICU.

The leadership and commitment demonstrated by A/Prof Poi and her dedicated team goes beyond caring for the sick and infirmed among us. The team actively rise above their duties to enable, support, and improve the quality of care to the lives of those they serve, shifting healthcare beyond quality to value.

Awards won

- The Palliative Care team won a **Health Outcomes & Medical Education Research (HOMER) grant** in 2014 from National Healthcare Group (NHG), Singapore. This grant was used to conduct communication courses to better equip ICU nurses to handle end-of-life discussions such as breaking bad news and extent of care to family members.

- It is also noteworthy to mention the submission of the Palliative-NICU collaboration has won Adj A/Prof Poi and her team the **Best Project Award at NHG Quality Day in 2015**.

Conference Invitations

- The team also put up a poster presentation and presented their work at the **International Society for Quality in Health Care (ISQua) in Tokyo 2016**.

- Adj A/Prof Poi was also one of the distinguished speaker invited to share their work at the **4th SG-ANZICS Intensive Care Forum in April 2017.**

Editorial submission

- Adj A/Prof Mervyn Koh (Head of Department of Palliative Medicine, Tan Tock Seng Hospital) and Adj A/Prof Poi jointly wrote an editorial about ICU-Palliative Care collaboration in **JAMA Internal Medicine** titled **'End-of-Life Care in the Intensive Care Unit, How Asia Differs From the West**' in **January 2015.**