Programme Booklet

HQSS QUALITY FORUM 2022

Transforming Healthcare in the New Normal

Hilton Singapore Orchard

29-30 July 2022
<table>
<thead>
<tr>
<th>CONTENTS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMITTEE</td>
<td>3</td>
</tr>
<tr>
<td>WELCOME MESSAGE</td>
<td>4</td>
</tr>
<tr>
<td>FACULTY</td>
<td>4</td>
</tr>
<tr>
<td>CONFERENCE INFORMATION</td>
<td>7</td>
</tr>
<tr>
<td>PROGRAMME</td>
<td>8</td>
</tr>
<tr>
<td>PLENARY LECTURE 1</td>
<td>10</td>
</tr>
<tr>
<td>SYMPOSIUM 1</td>
<td>11</td>
</tr>
<tr>
<td>PLENARY LECTURE 2</td>
<td>13</td>
</tr>
<tr>
<td>SYMPOSIUM 2</td>
<td>13</td>
</tr>
<tr>
<td>PLENARY LECTURE 3</td>
<td>15</td>
</tr>
<tr>
<td>SYMPOSIUM 3</td>
<td>16</td>
</tr>
<tr>
<td>ORAL PRESENTATION ABSTRACTS</td>
<td>17</td>
</tr>
<tr>
<td>POSTER PRESENTATION ABSTRACTS</td>
<td>20</td>
</tr>
<tr>
<td>MEMBERSHIP QUALIFICATION AND RIGHTS</td>
<td>37</td>
</tr>
<tr>
<td>APPLICATION FOR MEMBERSHIP</td>
<td>37</td>
</tr>
<tr>
<td>JOURNAL OF PATIENT SAFETY AND HEALTHCARE QUALITY</td>
<td>38</td>
</tr>
</tbody>
</table>
HEALTHCARE QUALITY FORUM 2022
ORGANISING COMMITTEE

Co – Chairpersons
Ms Elisabeth Angelina
Ms Annellee Camet

Members
Ms Tabitha Low
Mr Rexford J Del Rosario

HEALTHCARE QUALITY SOCIETY OF
SINGAPORE EXECUTIVE COMMITTEE

President
Dr Alvin Chang Shang Ming

Secretary
Ms Annellee Camet

Treasurer
Mr Rexford J Del Rosario

Member
Ms Catherine Poey

Co-opted Member
A/Prof Ling Moi Lin
Dr Sandhya Mujumdar
Ms Tabitha Low
Dear Friends and Colleagues,

Healthcare Quality Society of Singapore (HQSS) is pleased to announce that it will have its first physical HQSS Quality Forum 2022 which was suspended 2 years ago due to the COVID-19 Pandemic. The forum will be organized from 29th – 30th July 2022, at Hilton Singapore Orchard. Moreover, it will be a source of inspiration and bring about new initiatives and opportunities.

In addition, we will have symposia from leading healthcare quality professionals in Singapore and overseas experts on the various themes: Resilience, Burn out and Wellness; Value Healthcare; Continuous Improvement; and Innovation and Technology. There will be a poster competition and an oral presentation from the top winners.

The forum is also an opportune time and place to establish new relationships and renew old ties with fellow colleagues in the field of healthcare quality. We have much to share from our broad experiences and through the networking, we can share best practices to enhance our respective programs.

On behalf of the Organising Committee, we would like to extend our heartfelt gratitude to all faculty for your kind contribution to speak at our Forum.

Finally, we would like to thank all of the attendees for spending your valuable time taking part in our HQSS Quality Forum 2022.

Thank you once again and we look forward to having you in our future activities.

Ms Elisabeth Angelina
Co - Chairperson
HQSS Quality Forum 2022

Ms Annellee Camet
Co - Chairperson
HQSS Quality Forum 2022
FACULTY
All speakers are from Singapore unless otherwise stated

Ms Angela Magarry
Chief Executive Officer
Council of Presidents of Medical Colleges Australia

Prof Chua Hong Choon
Chief Executive Officer
Khoo Teck Puat Hospital & Yishun Health

Ms Cynthia Lee
Chief Human Resource Officer
Khoo Teck Puat Hospital & Yishun Health

Dr Tan Siok Bee
Deputy Director, Nursing (APN)
Singapore General Hospital

Adj. Asst. Prof Maleena Suppiah Cavert
Chief Wellbeing Officer
President, WISH - Women in Science and Healthcare
National University Health System

Dr Lim Eng Kok
Director, Office of Value Driven Care
Director, Future Workforce Unit
SingHealth
Dr Diarmuid Murphy
Clinical Director & Senior Consultant
Department of Orthopaedic Surgery
National University Hospital
Group Chief Value Officer
National University Health Systems

Mrs Chew Kwee Tiang
Senior Director, Wellness
Senior Advisor, NHG Board of Advisors
National Healthcare Group

Assoc.Prof Mark Koh Jean Aan
Head and Senior Consultant,
Department of Dermatology
Deputy Campus Director,
Digital Integration Medical Innovation &
Care Transformation (DIMICT)
Chairperson, KKH Telehealth Steering Committee
KK Women’s and Children’s Hospital

Ms Karen Zhang
Assistant Manager
Orthopaedic Diagnostic Centre
Singapore General Hospital

Adj. Asst. Prof Ng Yih Yng
Senior Consultant, Emergency Physician, TTSH ED
Director, Digital and Smart Health Office, TTSH and
Central Health
Deputy Clinical Director
Centre for Healthcare Innovation
Tan Tock Seng Hospital

Mr Teo Jing Chun
Project Management, Biomedical Engineer,
Clinical Innovation Engineer
KK Women’s and Children’s Hospital
CONFERENCE INFORMATION

CONFERENCE VENUE
Hilton Singapore Orchard
333 Orchard Road, Orchard, 238867 Singapore
Tel: (+65) 6737 4411

CONFERENCE REGISTRATION COUNTER
The Registration Counter is located at Foyer Area, Level 6. The counter is open from 1230 – 1645 hours on 29 July 2022, and from 0830 – 1600 hours on 30 July 2022.

NAME BADGE
Upon registration, you will receive your name badge. You are required to wear your name badge to all sessions and events. Should you lose your name badge, please contact the Conference Secretariat for a replacement. Please note that replacement fee applies.

POSTER DISPLAY
Poster display will be held in Ballroom III, Level 6 from 1510 - 1715 hour on 29 July 2022 and from 0830 - 1430 on 30 July 2022.

CONFERENCE MEALS
Buffet lunch will be provided in Ballroom III, Level 6 from 1230 - 1400 on 29th July 2022 and from 1200 - 1300 on 30th July 2022.

CPE INFORMATION
CPE points will be accorded for attending the forum. Delegates are required to sign on the attendance record daily (AM and PM sessions) at the conference registration counter. Delegates are required to sign at the beginning of the day and during lunch time.

LOST AND FOUND
For lost and found items, please approach the Conference Registration Counter.

CONFERENCE LANGUAGE
English is the official language of this conference.

LIABILITY
The Organisers are not liable for any personal accidents, illnesses, loss or damage to private properties of delegates during the Conference. Delegates are advised to arrange for appropriate insurance coverage during the conference period.

DISCLAIMER
Whilst every attempt will be made to ensure that all aspects of the Conference will take place as scheduled, the Organising Committee reserves the right to make appropriate changes should the need arises with or without prior notice.
## Friday, 29th July 2022

<table>
<thead>
<tr>
<th>TIME</th>
<th>TOPIC</th>
<th>SPEAKER/ CHAIRPERSON</th>
</tr>
</thead>
<tbody>
<tr>
<td>1230 - 1400</td>
<td>Lunch &amp; Registration</td>
<td></td>
</tr>
<tr>
<td>1400 – 1410</td>
<td>Opening Ceremony</td>
<td></td>
</tr>
<tr>
<td>1400 – 1405</td>
<td>Welcome Address</td>
<td>Ms Annellee Camet</td>
</tr>
<tr>
<td>1405 – 1410</td>
<td>Opening Address</td>
<td>Dr Alvin Chang, HQSS President</td>
</tr>
<tr>
<td>1410 – 1510</td>
<td>Plenary Lecture 1</td>
<td>Chairperson: Dr Alvin Chang</td>
</tr>
<tr>
<td>1410 – 1510</td>
<td>Role of Leadership in Staff Well-being</td>
<td>Ms. Angela Magarry</td>
</tr>
<tr>
<td>1510 – 1530</td>
<td>Afternoon Tea</td>
<td></td>
</tr>
<tr>
<td>1530 – 1715</td>
<td>Symposium 1 - Resilience, Burn out and Wellness</td>
<td>Chairperson: Dr Alvin Chang</td>
</tr>
<tr>
<td>1530 – 1600</td>
<td>Joy in Work</td>
<td>Prof Chua Hong Choon, Ms Cynthia Lee</td>
</tr>
<tr>
<td>1600 – 1630</td>
<td>Supporting One Another During the Pandemic</td>
<td>Dr Tan Siok Bee</td>
</tr>
<tr>
<td>1630 – 1700</td>
<td>Mindful Break for Self-Care</td>
<td>Dr Maleena Suppiah Cavert</td>
</tr>
<tr>
<td>1700 – 1715</td>
<td>Question-and-Answer Session</td>
<td>Dr Alvin Chang</td>
</tr>
<tr>
<td>1715</td>
<td>End of Day 1</td>
<td></td>
</tr>
</tbody>
</table>

Disclaimer: Whilst every attempt will be made to ensure that all aspects of the programme will take place as scheduled, the Organisers reserve the right to make appropriate changes should the need arise.
<table>
<thead>
<tr>
<th>TIME</th>
<th>TOPIC</th>
<th>SPEAKER/ CHAIRPERSON</th>
</tr>
</thead>
<tbody>
<tr>
<td>0830 – 0900</td>
<td>Registration</td>
<td></td>
</tr>
<tr>
<td>0900 – 1000</td>
<td>Plenary Lecture 2</td>
<td>Chairperson: Dr Sandhya Mujumdar</td>
</tr>
<tr>
<td></td>
<td>Value-Driven Care and the rapidly</td>
<td>Dr Lim Eng Kok</td>
</tr>
<tr>
<td></td>
<td>evolving healthcare environment</td>
<td></td>
</tr>
<tr>
<td>1000 – 1020</td>
<td>Morning Tea</td>
<td></td>
</tr>
<tr>
<td>1020 – 1200</td>
<td>Symposium 2- Value Healthcare,</td>
<td>Chairperson: Dr Sandhya Mujumdar</td>
</tr>
<tr>
<td></td>
<td>Continuous Improvement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value Healthcare – Institution’s Perspective</td>
<td>Dr Diarmuid Murphy</td>
</tr>
<tr>
<td></td>
<td>Value Healthcare – Patient’s Perspective</td>
<td>Ms Karen Zhang</td>
</tr>
<tr>
<td></td>
<td>Embracing Kaizen in the Transformation of Healthcare</td>
<td>Mrs Chew Kwee Tiang</td>
</tr>
<tr>
<td></td>
<td>Question-and-Answer Session</td>
<td>Dr Sandhya Mujumdar</td>
</tr>
<tr>
<td>1200 – 1300</td>
<td>Lunch</td>
<td></td>
</tr>
<tr>
<td>1300 – 1330</td>
<td>Free Oral Paper Presentations</td>
<td>Chairperson: Ms Catherine Poey</td>
</tr>
<tr>
<td></td>
<td>Oral Paper Presentation 1</td>
<td>Ms Angela Magarry</td>
</tr>
<tr>
<td></td>
<td>Oral Paper Presentation 2</td>
<td>Dr Sandhya Mujumdar</td>
</tr>
<tr>
<td></td>
<td>Oral Paper Presentation 3</td>
<td>Dr Alvin Chang</td>
</tr>
<tr>
<td>1330 – 1430</td>
<td>Plenary Lecture 3</td>
<td>Chairperson: Ms Marionette Catahan</td>
</tr>
<tr>
<td></td>
<td>Transformation of Healthcare in a new Normal</td>
<td>Adj.Asst.Prof. Ng Yih Yng</td>
</tr>
<tr>
<td>1430-1500</td>
<td>Afternoon Tea</td>
<td></td>
</tr>
<tr>
<td>1500 – 1645</td>
<td>Symposium 3- Innovation and Technology</td>
<td>Chairperson: Ms Marionette Catahan</td>
</tr>
<tr>
<td></td>
<td>Telemedicine - Into the Future</td>
<td>A/Prof Mark Koh Jean Aan</td>
</tr>
<tr>
<td></td>
<td>Spirobooth – Mitigating the Risk for COVID 19 Patient Undergoing Pulmonary Function Test</td>
<td>Mr Teo Jing Chun</td>
</tr>
<tr>
<td></td>
<td>Question-and-Answer-Session</td>
<td>Ms Marionette Catahan</td>
</tr>
<tr>
<td>1615 – 1640</td>
<td>Closing</td>
<td>Chairperson: Ms Tabitha Low</td>
</tr>
<tr>
<td></td>
<td>Comments from Judges</td>
<td>Ms Angela Magarry</td>
</tr>
<tr>
<td></td>
<td>Prize Presentation (Oral/Poster)</td>
<td>Ms Tabitha Low</td>
</tr>
<tr>
<td></td>
<td>Closing Remarks</td>
<td>Ms Elisabeth Angelina</td>
</tr>
<tr>
<td>1640</td>
<td>End of Forum</td>
<td></td>
</tr>
</tbody>
</table>

Disclaimer: Whilst every attempt will be made to ensure that all aspects of the programme will take place as scheduled, the Organisers reserve the right to make appropriate changes should the need arise.
PLENARY LECTURE 1
Role of Leadership in Staff Well-Being
Ms Angela Magarry

The SARS-CoV-2 (COVID-19) pandemic has disrupted the global society, upended economies, and placed enormous pressure on health systems to cope with the additional demand. The inevitable increase in workplace pressure has resulted in higher rates of workplace stress and reduced staff wellbeing. There is considerable evidence connecting poor staff wellbeing to reduced operational performance leading to higher organisational risk that can contribute to adverse outcomes in patient care. COVID-19 has simply shone a torchlight to why leadership is important in staff wellbeing. Using examples of leadership styles and case studies, my presentation will reflect upon the leadership competencies necessary to cultivate a healthy organisation and how in using the All Competency Framework health sector leaders can assess the requirements necessary to enhance staff wellbeing, for example by introducing the peer support program, Hand-in-Hand. I will conclude by suggesting that we rethink the kind of competencies necessary in healthcare leaders to assure staff wellbeing.
The COVID-19 Pandemic has been an extremely stressful and challenging period for healthcare workers in Singapore; and many have experienced significant declines in their well-being, both physical and mental. The Joy in Work movement, initiated by the Institute for Healthcare Improvement, has special relevance as we reshape the delivery of healthcare services in the New Normal of ‘Covid endemicity’. This lecture will examine the key elements of the Joy In Work framework, and how they can be applied to the local healthcare setting, to improve safety and quality of care, for patients and healthcare workers in Singapore.

Ms Cynthia Lee
Stress and burnout are common experiences at workplaces today, and healthcare organizations are not spared.
In this session, we will look into the various root causes of stress and dissatisfaction at work.
We will explore the opportunities, at macro, meso and micro-system levels, to bring back the joy in the work that we do.
Let us examine efforts to re-engage and empower healthcare workers to re-connect with the meaning and purpose of work, and to remove the ‘pebbles’ that get in the way of their experience of joy in work.
Supporting One Another During the Pandemic
Dr Tan Siok Bee

Everyone in healthcare is at risk of being burnout. We recognize that we do have our challenges from our personal and work life. Some have identified ways to manage it, some have not.

Individuals often feel negative or experience negative emotions when burnout. What matters to those who are burnout is to ignite joy and interest, the motivation to cultivate positive emotions, leading to health and wellbeing. Each one of us can contribute to help our colleagues, as if we are adapted and positive in response to change and adversity and are able to have a strong sense of purpose for our mission. Team Resilience is critical in achieving performance including good team health. At a personal level, resilience is about being able to bounce back whenever we are feeling down or negative. It is having the intrinsic drive and motivation to achieve our goals in the face of adversity. A team that demonstrates resilience will produce better results over an extended period than a group that is not. To build trusted relationship in team collaboration, focus is on “We will” and “We care.” Enable a willingness and freedom to disagree. In “We will”, Be transparent and share information, be positive, respect each other and team limits, walk the talk and play fair. At the highest level of a trusted relationship, we care for one another in the team, we understand and respect vulnerability and offer good will. Here caring is key.

We work in a stressful environment, which can negatively impact our mental health and wellbeing, and this can affect our psychological and professional functioning. Thus it is important to build positive emotion and increasing our resilience.

Mindful Break for Self-Care
Adj. Asst. Prof Maleena Suppiah Cavert

When asked, most of us think we know how to care for ourselves. What does it mean to really pay attention to our physical, psychological and emotional health? Dr. Maleena invites us to join her in a mindful break. She offers us tools and techniques, as well as walks us through approaches to dedicated practice and integrated practice for mindfulness.
PLENARY LECTURE 2

Value-Driven Care and The Rapidly Evolving Healthcare Environment
Dr Lim Eng Kok

The National Value-Driven Care (VDC) initiative was introduced in 2017 as part of the Ministry of Health’s (MOH) ‘Beyond Quality to Value’ strategic shift. VDC provides a holistic framework for the evaluation and improvement in the delivery of patient care. It leverages transparency of clinical outcomes and costs, as a means to keep our healthcare system sustainable. SingHealth, the largest public healthcare delivery Cluster in Singapore, has successfully implemented VDC initiatives in several conditions across its institutions. In today’s rapidly evolving healthcare environment, there is a strong impetus for us to understand and manage the Value that we are delivering. This presentation shares the VDC methodology adopted at SingHealth, the learning journey and its results attained thus far. Attendees will gain insights on how VDC could be started, including how Value-improvements could be achieved and scaled up at various levels.

SYMPOSIUM 2- VALUE HEALTHCARE, CONTINUOUS IMPROVEMENT

Value Healthcare – Institution’s Perspective
Dr Diarmuid Murphy

The projected costs for healthcare in Singapore is unsustainable. The predicted increase in cost does not ensure improvement in patient outcomes and whilst Singaporeans craved the Holy Trinity of “Quick, Good and Cheap”, when it came to healthcare, it appeared that only 2 of the 3 were achievable.

In view of this, in 2016, NUHS embarked on a Value Driven Outcome/care approach to ensure quality of care for patients whilst reducing cost of care through improvements in efficiency. This lecture will review the reasons why this was necessary, the challenges facing Singapore in the face of an ageing population as well as how NUHS is using the various components of Value Based Healthcare to tackle these difficulties through data driven, targeted, quality improvement projects. The implementation of these value based practices can ensure better care for patients while driving cost efficiencies in health services.
Value Healthcare – Patient’s Perspective
Ms Karen Zhang

Costs of healthcare is growing at an exponential rate, with tremendous pressure on healthcare budgets and Constraining further innovations and developments. There is a growing concern on the sustainability of healthcare. Evaluation of healthcare is evolving, with the patient’s perspective increasingly sought after to provide a more patient centered service. This session will share how one of the world’s largest orthopaedic surgical registry on patients’ perspective is maintained in Singapore General Hospital’s Orthopaedic Diagnostic Centre (SGH ODC), and its unique mode of administration and documentation.

SGH ODC makes use of internationally approved array of Patient Reported Outcomes Measures (PROMs) to make sure output is standardized, comparable with the literature and well recognized for purposes of publications in major journals.

The uniqueness stems from the fact that Patients’ perspective is measured through an independent assessor administered PROMs and Patient Reported Experience Measures (PREMs). In healthcare, we face the challenge of how to accelerate the transition to value-based healthcare in health systems. This session will also share how these measures are used not only to provide patient centric clinical reports but also to aid the transition of volume-based to value-based healthcare in the hope of improving access to appropriate healthcare and to spur innovations in treatment and care delivery.

Embracing Kaizen in the Transformation of Healthcare
Mrs Chew Kwee Tiang

Healthcare is a complex adaptive system - the system performance and behavior responds to many moving components that are inter-related. Put simply, in the care of patients – there are multiple professionals with different roles involved, there are various combinations of care activities to be administered, sometimes in different facilities, and there are many clinical processes to be individualized for the patients by multiple caregivers or teams on multiple shifts. Healthcare workers in the frontline perform complex work in a complex environment.

The transformation in healthcare through rapid digitalization, new model of care delivery, highly automated technology may simplify some aspects but can potentially add to the complexity of a system that is in transition. Healthcare leaders need to be trained in quality management and support the frontline workers. More importantly, how do we seek to understand the daily system issues faced by healthcare workers and help to resolve them?

Kaizen, meaning continuous improvement in Japanese is a way of working that engage and harness the expertise and creativity of workers. It is about training and empowering our frontline workers to solve problems they faced daily. It is about building a habit of creative cooperation that moves us from departmental silos to work as teams to provide safe care.

A simple framework from Toyota guides us in this journey of building a kaizen culture - It encompasses designing thinking, human factor engineering, and basic flow management and most importantly, a focus on our people.
PLENARY LECTURE 3
Transformation of Healthcare in a new Normal
Adj. Asst. Prof Ng Yih Yng

The last two years has been anything but normal. Many of us have pressed pause on our way of living as COVID-19 wrecked massive havoc across the world and continues to cause significant pain to many healthcare systems. Its impact on how modern healthcare is practiced cannot be overstated as it has brought wholesale changes to the way think about infectious disease, about health delivery in general and how we deal with healthcare crises. COVID-19 has is not just a medical crisis – it has a far-reaching impact that affects all sectors of the economy and changes how we perceive what work is, transportation, housing and even how we define our leisure time.

We were forced to make significant changes to how we work, how we eat, travel and how we communicate with each other. Many of these changes will continue long after COVID19 is gone as this generation, defined by COVID-19, may have altered their perspectives very significantly. New technologies have been rapidly adopted because of COVID-19 such as Zoom and Telemedicine, cultural norms have shifted with the reduction of socialization and face to face interaction.

We will examine some of the ways healthcare has changed, will continue to change and what opportunities exist for us to transform healthcare and make the most of this situation that we call the New Normal.
Telemedicine - Into the Future
A/Prof Mark Koh Jean Aan

Since the onset of COVID-19 in 2020, the usage of telehealth has increased exponentially, as a means of clinical consultation for patients at a time of increased social distancing. In the form of video consultations or phone consultations, telehealth has been utilized by different healthcare professionals including doctors, nurses, pharmacists, and allied health, to provide an easily accessible, convenient and cost-effective means of clinical consultation. We will provide an insight into the telehealth experience of KKH (KK Women's and Children's Hospital), detailing the journey of development and expansion of the service, the difficulties faced as well as our future vision of telehealth in the hospital.

Spirobooth – Mitigating the Risk for COVID 19 Patient Undergoing Pulmonary Function Test
Mr Teo Jing Chun

The need for technologists to wear full personal protective equipment and lack of negative pressure facilities to conduct aerosol generating procedures like spirometry during COVID-19 pandemic has significantly compromised operational efficiency of lung function laboratories, substantially impacting clinical care, patient experience and staff well-being. A novel, self-contained, purpose-built booth - “Spirobooth” was developed to tackle this with an aim to conduct spirometry safely, effectively and efficiently during COVID-19 and beyond. The presentation will showcase how the team worked with various internal and external stakeholders to navigate through various uncertainties and developed this concept into reality, while ensuring safety and examining risks at every step. Results from deploying this innovation for the past 1 year will be shared and how this has helped KKH’s lung function laboratory maintain operational capacity and efficiency during this COVID-19 pandemic. The improved quality of care, patient and staff experience and most importantly, safety were important outcomes of this innovation.
ORAL PRESENTATION

TARGET ZERO MISSED RADIOThERAPY REFERRALS WITH IMPROVED WORK EFFICIENCY BY USING TECHNOLOGY IN THE NEW NORMAL

Lim GH1, Cham MT1, Ng HYA2, Ng RP1, Ab RF1, Li YH1, Si PH1, Chang NM1, Rahim NH1, Wong FY2, Ng CHR2

1 KK Women’s and Children’s
2 National Cancer Centre Singapore Hospital

Background/Aim:
Breast cancer patients at KK Women’s and Children’s Hospital (KKH) requiring radiotherapy (RT) are referred to National Cancer Centre Singapore (NCCS) for RT. The process of obtaining cross-institutional referrals was laborious and time-consuming with multiple parties involved, making it prone to errors. This has resulted in missed RT referrals, with grave consequences for the patient and negligence claims. This referral process could be simplified to avoid missed referrals and improve work efficiency to cope with manpower issues during the pandemic.

The aim was to achieve zero missed cross-institutional RT appointments at NCCS for breast cancer patients from KKH by capitalizing on technology, with improved work efficiency to resolve manpower issues during the pandemic.

Methods:
This was a cross-institutional (KKH & NCCS) multidisciplinary collaboration of KKH Breast Surgeons and Nurses, Radiation and Medical Oncologists, Patient Service Associates, Managers, IT Personnel.

Using the Lean Methodology principles, the referral workflow was simplified (6 to 3 simple steps) with the new cross-institutional Outpatient Administrative System booking system.

Results:
Since the initiative implementation in April 2021-February 2022:
- 188 patients benefited with 100% referrals scheduled successfully, resulting in zero missed RT referrals and improved patients’ satisfaction and safety.
- The previous workflow required about 20mins to make an appointment/patient. Now, it takes < 5mins to make the appointments, saving time and improving work efficiency as many referrals were made/year. This time saving had resolved some of the manpower issues during the pandemic.

Conclusion:
This revised simpler workflow has benefited many patients and is sustainable. It resulted in zero missed RT referrals with improved patients’ safety and increased staff efficiency, resolving some manpower issues during the pandemic.

Sustainability:
This initiative has been incorporated into practice and was being adopted by other breast centres and centres which regularly refer patients to a cross-intuitional discipline.
STEADY POMPIPI
Ong LJ¹, Irene Tan CG¹, Lim SL², Wang E¹, Ho J², Luay J¹, Xu Y¹, Lim SF¹
¹ Singapore General Hospital
² NTUC Health

Aim(s):
To increase awareness level of community dwelling seniors in falls management at home from 22% to 50% within 6 months.

Methodology:
The team recruited 10 community dwelling seniors with i) high fall risk, ii) no caregivers, iii) at least one fall incident (include near miss) reported within the past 12 months and d) expressed fear of falling. Focused discussions were conducted at the participants’ home to understand the factors that contributed to their falls, their knowledge in post fall management and their confidence in performing instrumental activities of daily living (IADL). Self-rated modified efficacy scale (from 0 to 10) was used.

Three interventions were implemented; i) educate seniors on how to get up after a fall through demonstration and pictorial guide, ii) provide seniors with home wall decals with emergency contact for easy reference, and iii) conduct individual coaching on healthy diet for strong bone, proper footwear, home safety and falls management with sustained injury.

Result:
The seniors had an overall increase of 51% in their knowledge of fall management and greater confidence of 14% in managing their IADLs post falls (p<0.05). Nine seniors felt that the wall decal was useful especially in contacting their next-of-kin during emergencies. The number of seniors with emergency visits were reduced from 5 to 1 over a period of 6 months.

Conclusion:
The experience gained from engaging seniors highlighted the importance of inculcating fall management awareness and preventive measures to them. Engaging seniors and their caregivers in falls management and increasing their autonomy can significantly reduce healthcare costs and hospitalizations. The project team had advocated these enhanced interventions to a larger community including community partners and community nursing teams.
HEALTHY MIND, JOYOUS WORK
Goh SH, Lee RL, Lim S, Su A
St Luke’s Hospital

Background/Aim:
Improved mental wellbeing increases productivity, job satisfaction and employee retention. At St Luke’s Hospital, our Health and Wellness Committee implemented a set of initiatives for employees to achieve optimal physical, mental and social wellbeing project to “Healthy Mind, Joyous Work” during the Pandemic period.

Initiatives:
“Me 2.0 Challenge” was a creative initiative which utilized gamification, self-empowerment, education, and support. It prompted staff to self-monitor and record their habits for sleep, diet and exercise; and support one another through videos, words of encouragement and photos in a group chat. The top three participants with the most improved habits were showcased and given prizes. In addition, the committee also launched “Dear Diary”, an online platform where employees shared their concerns, which were anonymously circulated to the senior management or counsellors for follow up. There were emails on mental health, such as self-care, preventing burnout, and resources for help. This was also supplemented by virtual talks on topics such as stress management and insomnia. Other virtual workshops such as cooking, virtual tours, art, tea-brewing, were also conducted to promote wellness.

Exercise-led virtual classes were offered to employees stay active while working from home or at workplace. This is achieved through distribution of skipping ropes and exercise bands, with exercise videos developed by Health and Wellness Committee. Other initiatives included Fruit Days where employees received fruits/nuts/dried vegetables as snacks few times a year. Mental Health Boards was placed within their work zones, allowing employees to creatively express their gratitude and encourage one another and build resilience during the period.

Results:
Post-quantitative survey done from random sample among the 2.0 challenge participants, on how well they with current state of stress, 84.6% - quite well. There was another survey (n=201) on staffs’ overall satisfaction with HealthClub’s activities, it was reported with 84.2% rating, with 0.21 increase rating compared to previous year. In recent corporate staff health screening report (n=219), there was a decrease in abnormal LDL category from 38% (2020) to 26.03% (2021).
HOME IN A DAY: HIP ARTHROSCOPY

Lissa J, Poh SY, Juliana TSY, Wong S, Ong A, Noor’ain BH
Singapore General Hospital

Aim(s):
The project aimed to achieve a reduction in median LOS of patients undergoing hip arthroscopy from 2 days to 1 day (in at least 50% of patients) within 12 months.

Methodology:
We formed a multidisciplinary team and the team used brainstorm technique to identify the causes of increased length of stay after hip arthroscopy. The problems were then analyzed and categorized into the cause and effect diagram under patient, staff, process and environment/social categories. Multi-voting was done and causes are plotted in a Pareto chart to identify the most significant root cause. The identified causes were no protocol available, antiemetic not given appropriately, lack of knowledge/awareness of staff and patient, pain not managed adequately and delay in starting physiotherapy. The team adopted the following Plan-Do-Study-Act cycles to address root causes and to converge the ultimate goal.

PDSA 1:
(a) Mandatory post-op instruction in terms of post-operative management
(b) Refer to physiotherapist on post-operative day 0

PDSA 2: Surgeon’s explanation to patient

Result:
Data was collected between January 2018 and October 2019. A run chart was utilised to compare the performance measures before and after intervention. The length of stay was 2-8 days prior to implementation. After the interventions, 80.65% of patients achieved a median LOS reduction from 2 days to 1 day. There is also a cost saving of $6079.72.

Conclusion:
Reduced length of stay is one of the performance indicators of quality care provided by many health care institutions. Our interventions, enabled us to successfully reduced length of stay to 1 day. This leads to efficient utilization of health care resources. This also allows patients to recuperate from their own home.
AUTOMATING CHILDREN’S EMERGENCY (CE) HOME RECOVERY PROGRAMME (HRP) ASSESSMENT AND REPORTS

Lim A, Tan XF, Pok S, Wong J, Goh BK, Mark C
KK Women’s & Children’s Hospital

Background/Aim:
As the number of Covid-19 patients increases and to allow doctors to focus on patients’ care, Office of Patient Experience (OPE) took over HRP assessment for MOH reporting. OPE had to spend up to 6 hours to manually contact caregivers for HRP assessment on a daily basis (including weekends and public holidays). This abstract submission outlines how (i) digitalization of HRP assessment and (ii) the collaboration between Data Analytics Office (DAO) and OPE enabled the redesign and automation of data preparation.

Methods:
Phase 1
The initial HRP process involves retrieving patient’s details manually and conducting HRP assessment via phone before submission to MOH. In discussion with CE, OPE rolled out digital caregivers’ self-assessment via FormSG based on MOH’s eligibility criteria. This eliminated the need to call up to 80 patients a day. Retrieval of patient information was done via eHints instead of individual extraction from SCM to eliminate scribing error.

Phase 2
OPE collaborated with DAO to take a systematic approach to review and redesign the process of data processing. Patient information report setup is refined in E-hints to improve data download efficiency. With OPE’s sharing of the rules involved in the various patient’s report, the algorithm of the HRP stratification by age was established. Taking the two sources of data (patient information and FormSG responses), a mock-up of excel application was created and results were verified through the use of historical data to ensure output accuracy. Excel application was then automated with a simple user interface and tested before roll out.

Results:
The automation throughout the 2 phases has enabled the HRP assessment process and reporting submission to cut down from 6 hours to just 30 minutes per day. Manpower required reduced from 4 to 5 staff per day to 1 staff per day. Use of automated process also enabled task to be standardised and executable by any staff. This allowed a setup of rotation amongst the data representatives to prevent staff fatigue and ensure sustainable reporting.

Conclusion:
The significant reduction in time and costs savings has brought about relief to OPE and CE team and created sustainable and safe method to retrieve and produce standardised reliable report.
IMPROVING ACCURACY OF THICKENED FLUID PREPARATION IN A COMMUNITY HOSPITAL

Das S, Ee CI, Mok JY, Tan LK, Jaganathan G, De Lara MA, Dela Serna Go A
St. Andrew's Community Hospital (SACH)

Background/Aim:
Modifying fluid viscosities is an evidence-based compensatory strategy for some persons with dysphagia, and patients may need help to prepare their fluids as recommended by the Speech Therapist (ST). A hospital-wide audit in January 2021 found that accuracy of thickened fluids being prepared in St. Andrew's Community Hospital (SACH) inpatient wards had a median of 50% (n=106). A root cause analysis identified this was due to

(i) Insufficient staff training,
(ii) Inadequate staff to prepare the fluids
(iii) Lack of equipment at bedside.

The aim of this project was to achieve ≥90% accuracy of fluid consistencies served by staff in two general wards at SACH in 6 months from the time of implementation.

Methods:
Interventions included:

(i) Improving staff knowledge and roles review, including additional training and re-training, and introducing posters as visual reminders
(ii) Environmental changes, such as labelling thickener cans, introducing drinking measurement cups, and providing stirrers at bedside.

Interventions were implemented from August 2021 to February 2022, with twice-weekly audits. Results were recorded on a digital spreadsheet and analyzed by observing the median pre- and post-interventions. The interventions were reviewed at Month 3 and improved based on feedback. Ask-5-Take-5 from staff involved was done via a survey administered at four intervals throughout the project.

Results:
The audit of fluid consistencies showed a positive trend in Intervention Period 1 (Month 1-3; median=79.17%), while Intervention Period 2 (Month 4-6) improved to a much higher accuracy rate (median=93.75%).

The staff survey showed an improvement in staff knowledge, and feedback that the interventions were useful.

Conclusion:
Staff and environmental changes were greatly beneficial in improving the accuracy of thickened fluids preparation at bedside. Through this project, one contributing factor to aspiration pneumonia could be reduced, hence reducing adverse medical outcomes, cost of hospitalization, and the burden on the healthcare system.

Sustainability:
Incorporating the interventions into daily nursing care and heightening awareness on the ground helped to sustain the improvements.
INTRA-ARTERIAL CATHETERIZATION IN TAN TOCK SENG HOSPITAL (TTSH) EMERGENCY DEPARTMENT – SAFETY AND QUALITY IMPROVEMENT, A WORK IN PROGRESS.

Lee WT, Tan WSA, Ng WX
Tan Tock Seng Hospital

Background/Aim:
Intra-arterial catheterization is a common procedure performed for critically ill patients requiring continuous hemodynamic monitoring and frequent blood sampling. It is generally considered a safe procedure. Our study site has the highest Emergency Department (ED) attendance in the nation. Intra-arterial catheterization was first introduced in our ED on 1st January 2019. Our study aims to evaluate the safety of intra-arterial catheterization, detect significant complications and to assess the impact of these complications on patient care. We also aim to analyze the factors contributing to success and failure, and propose strategies to maximize the chance of success and minimize complications.

Method:
We conducted a 2.5-year retrospective review of all patients who received intra-arterial catheterization in ED from 1st January 2019 to 15th June 2021. A research assistant served as the third-party to extract the data. We reviewed the cases and identified the needed information.

Results:
A total of 289 intra-arterial catheterizations were performed. Most of them were done by ED Senior Residents and Medical Officers with first-attempt success rate of 60-61%. The procedures were performed via manual palpation. Ultrasound guidance was used as backup plan after manual palpation had failed. The common reasons for failure were the inability to puncture the vessel and inability to advance cannula. The overall complication rate was low (1.74%) and they were minor (kinking and malposition of catheter, haematoma, peri-catheter bleeding).

We attributed the low complication rate to the proficiency in skills of vessel cannulation by ED doctors, proper supervision by an experienced ED specialist when the procedure is performed by a non-specialist, high competency of ultrasound skill which helps to overcome difficult cannulations.

We propose few strategies to further improve the safety such as provision of training by incorporating task-trainer sessions, increase the usage of ultrasound as first-line technique, procurement of new equipment when the procedure is anticipated to be challenging, improve the quality of documentation and regular audits.

Conclusion:
Intra-arterial catheterizations are part of the ED’s armamentarium to resuscitate critically ill patients. This allows ED physicians to detect changes in the patient’s physiology promptly and intervene accordingly, thereby improving patient outcomes. This study shows that it can be performed safely in ED.
IMPLEMENTATION OF SUICIDE AND SELF-HARM SCREENING FOR INPATIENTS
Lu EH, Tay SLJ, Chua LJP, Lim YY, Zhong XN, Poon NY
KK Women’s and Children’s Hospital

Background/Aim:
The Joint Commission International has emphasized the importance of suicide assessment. Hospitals are required to adopt an evidence-based tool to identify patients at risk for suicide and self-harm. The aim of this project is to implement a valid screening tool for healthcare providers to identify adult inpatients who are at risk of suicide and self-harm and to ensure rapid and timely linkage to appropriate interventions and follow-up care.

Methods:
A multi-disciplinary workgroup was formed. The workgroup developed a suicide and self-harm screening form which was adapted from an existing validated suicide risk screening tool - “Ask Suicide-Screening Questions”. Face and content validity were conducted with patients and healthcare providers. Pilot project was implemented to fine-tune the process and explore the feasibility of the workflow. Subsequently, the “Train the trainer” method was adopted for nurses and doctors training. The screening form was rolled out on 1st November 2021.

Results:
The workgroup monitored the compliance and effectiveness of the screening tool and process by randomly auditing 30 patients each month. Results from December 2021 to February 2022 showed a compliance rate of 70 to 94%. Results also showed that three patients required in-depth assessment, of which two patients with known psychological history had a positive screening. No patient required immediate intervention from psychologists.

Conclusion:
The introduction of the suicide screening tool and the development of the process for identifying the patient as risk can allow prompt escalation of care to the relevant healthcare providers.
EXPEDITE DISCHARGE PROCESS FOR PATIENTS TO COMMUNITY HOSPITAL
Zhou LF, Toh JLS, Ong SY, Png GK, Zhang L, Tan PWT
Changi General Hospital

Background/Aim:
A COVID-19 PCR swab test is a requirement for all patients within 48 hours prior to discharge to Community Hospitals (CHs). From April 2020 to Jan 2021, it was observed that there were delayed discharges which caused by delay in test order that propelled to late dispatch of specimen to laboratory, late test result and delayed patient discharges to CHs. The project aimed to discharge 95% of patients to CHs according to scheduled timing (before 11am) within the next 6 months.

Methods:
PDSA cycle and Idea Generation/ Selection were utilized to validate the project. The initiatives included skills competency training to Registered Nurses (RNs) in performing COVID-19 PCR swab test, giving order rights for RNs to order swab test on hospital order system, Sunrise Clinical Manager (SCM) and early dissemination of patient’s discharge details to the nurses.

Results:
A total of 1028 of RNs have completed the competency training and assessed as competent to perform COVID-19 PCR swab from 23th February 2021 to 30th Sept 2021. On February 2021, order right was given to RNs to order the COVID-19 PCR test for patients in SCM. This initiative resulted PCR results were ready within 48 hours prior to patient’s discharge. From February to July, a total of 1,207 of the patients were discharged to community hospital timely before 11am. In June 2021, 2 patients were reported to be discharged later than the scheduled time due to delaying in readiness of the Covid-19 swab result.

Conclusion:
These 3 main initiatives have demonstrated significant improvement on discharge process which increased staff and patient satisfaction and turnaround time. The skills competency training of COVID-19 PCR swab for RNs has given empowerment to them to manage their patient care and discharge to CHs in a timely manner.
PROCESS IMPROVEMENT FOR PORTATBLE X-RAY SERVICE IN KK HOSPITAL

Qinglong G, Shi Feng James O
KK Women's and Children's Hospital

Background/Aim:

Prior to August 2021, the portable service provided by the diagnostic department was split between several shifts and two on-call numbers in a 24 hour basis. The timing of the two numbers differs on different days, (Public holidays, weekdays and weekends etc), resulting in ward staff calling the wrong number, potentially delaying critical diagnosis.

For patient safety, the portable service needed to be more accessible for the ward staff. Hence, the aim was to improve the process of contacting the portable service, making it easier, if not simpler. Therefore, it was proposed that the entire portable service utilized a one number system, on a 24 hour basis.

Methods:

We have collected 9 days missed calls within the first half year of 2021. The missed calls were used as a basis of comparison. After implementing the change, the number of missed calls would be expected to be zero. The other on-call phone used previously would be monitored as well, to aid the ward staff in the transition to the one number system.

For the entire portable service to utilize one on-call number, the different shifts were consolidated to one center (Children’s emergency department, which operated 24 hours). This would mean rotating manpower around to ensure that the service was manned for 24 hours, and all other preexisting services would not be disrupted. Planning the change involved the roster committee to ensure the transition would be possible.

Results:

With the one number response system, we are able to completely reduce to the missed calls from average 10 to 0 to the other on-call phone

Conclusion:

In this process improvement project for portable X-ray service, we have achieved our initial aim in making portable X-ray service easier, simpler and safer

Sustainability:

After the implementation of the one number system, the portable service has been operationally stable, will likely continue in the long run as it has a positive impact on patient safety
Hand Hygiene Feedback Card – Providing Real Time Feedback to Improve Hand Hygiene Compliance

Maruthasalamoor M, Ibrahim A B
St Luke’s Hospital

Background/Aim:
Hand Hygiene is widely recognised as the most effective practice for preventing healthcare associated infections. Unfortunately, SLH’s overall hand hygiene compliance rate dropped since January 2020. Despite on-going interventions and strategies were implemented by Infection Control Committee, the compliance and consistency in the hand hygiene remains a challenge, where at times staff are unaware which incidence or which are they were non-compliant to Hand hygiene, therefore this warrants a need for more robust strategic approaches.

One strategy proposed is through customised audit and real-time feedback. Literature review had highlighted on the effectiveness of audit, coupled with specific feedback. This was also supported by several guidelines and regulatory bodies which recognized the importance of audit and feedback to hand hygiene improvement efforts. For example, WHO emphasized on 5 core components to improve hand hygiene. One of its highlighted components was through evaluation and feedback.

Aim:
To improve on providing feedback to healthcare personnel when they do not show compliance to the five moments of hand hygiene.
To achieve more than >95% hand hygiene compliance among health care staff.

Methods:
Information on the use of the Hand Hygiene Feedback Card was briefed to the Auditors. The Hand Hygiene Feedback Card was started in all the wards in May 2020. The process is first started with orientation to auditors on the Hand Hygiene Feedback Card, followed by auditing the hand hygiene. For staff who did not comply the hand hygiene, they would be given real time feedback card on the spot, which specified the missed hand hygiene movement.

Results:
There was increase of overall Hand Hygiene compliance among healthcare staff by 6% after the implementation.

Conclusion:
Overall, the Hand Hygiene feedback Card has been proven effective to improve hand hygiene. Through this Quality Improvement project, significant and sustained gains in hand hygiene compliance rates of >95% can be achieved.
Background/Aim:
Skin tear is common among the geriatric population which poses risk of increasing the hospitalization stay and thus, affecting quality of life if not addressed well. This project aims to assess the effectiveness of a skin care bundle in reducing the rate of skin tear in St Luke’s Community Hospital. The interventions are targeted on increasing the awareness and compliance of staff on skin tear prevention and management, and also among the patient and caregivers.

Methods:
The Skin Care Bundle consists of an educational pamphlet, identification tag and a waterproof bag. Education Pamphlet provides information for patients and caregivers on skin tear prevention and management, which also serve as a guide for nursing staff to conduct caregiver training on skin care. Additionally, patients have identification tag to assist staff in identifying patients with high skin tear risk. Lastly, waterproof bag with skin care products allows staff and patients to bring it along to shower room, remind staff and patient to use emollient soap during shower and apply moisturizer, followed by application of protective elastic tubular bandage after shower.

Results:
There were astoundingly positive results, with 100% reduction in Skin Tear incidence after project was implemented. Additionally, 91.8% of staff are compliant in adopting skin care routine; 99% of staff and caregivers agreed that Skin Care Bundle have increased their awareness and knowledge towards Skin Tear prevention and management; and 88.9% of staff and caregivers were satisfied with the use of Skin Care Bundle.

Conclusion:
This project has shown that the Skin Care Bundle has improved staff and caregiver awareness and knowledge towards skin tear prevention and management. Importantly, this also promotes a sense of empowerment and independence for patients who were able to perform the skin care. With this, the team will continue monitor the skin tear incidence, to further assess the effectiveness of this project.
NURSE-LED ELECTROLYTES REPLACEMENT PROTOCOL IN THE CRITICAL CARE UNITS
Yee Nwe T, Gan Y, Chua HFC, Liew PSA, Lee WYC
National University Health System

Background/Aim:
Electrolytes disturbances are common and can lead to adverse outcomes, such as cardiac arrhythmias and seizures, thus prolonging the patient’s length of stay. Despite these complications, delays in electrolyte replacement are a common occurrence within the critical care units. Data in the 2 High Dependency Units (HDUs) revealed an average median time of 3.64 hours to electrolyte replacement per patient’s episode. A root cause analysis found that there was no structured guideline for electrolyte replacement. Hence, the 2 HDUs adopted a nurse-led protocol developed by the Surgical Intensive Care Unit (SICU) using pre-set doses of electrolytes replacement without seeking orders from clinicians.

Methods:
Plan-Do-Study-Act (PDSA) was utilized to iteratively test changes and implement the nurse-led electrolytes replacement protocol. All nurses attended in-service sessions to familiarize themselves with the protocol. The protocol was piloted for one month in 2020 to ensure that nurses are accustomed with the workflow and to identify any gaps or challenges. Feedback was gathered and addressed with the nurses and minor adjustments made to the protocol and its process. Thereafter, the initiative was effected and data was collected for 3 months after the implementation.

Results:
There was a reduction in time to electrolyte replacement from an average median time of 3.64 hours compared to 2.23 hours per patient’s replacement episode across the two units. Furthermore, there was zero adverse events occurred.

Conclusion:
The nurse-led electrolytes replacement protocol was safely implemented and reduced the delay in electrolytes replacement in the two HDUs.
Background/Aim:
Doctors who rotate from other institutions into Assisi Hospice are often unfamiliar with the prescribing system here which includes a paper Inpatient Medical Record (IMR). Adverse drug events arising from prescribing errors can lead to substantial harm to patients. Prevention of such errors are therefore paramount to improving the quality of healthcare rendered. From 1 Nov 2020 to 30 Apr 2021, 6 out of 10 medication errors reported in Assisi Hospice were prescribing-related errors. The National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP) has an index for categorising medication errors according to outcome severity. Five out of 6 (83.3%) prescribing-related errors were NCC MERP Cat D where the errors had reached the patient and monitoring was required to ensure that no harm came to them although no interventions were required to preclude harm. This project aimed to reduce prescribing-related medication errors to zero within 6 months, among newly admitted patients to our inpatient service.

Methods:
A workgroup comprising a consultant, resident physician, pharmacist, pharmacy technician, advanced practice nurse and staff nurses was formed. An Ishikawa diagram was made to determine the root causes. Pareto chart analysis was done to identify the top root causes. Proposed interventions included standardisation of approved abbreviations used in IMRs; orientation for all new doctors in prescribing paper IMRs and review of workflow for the transfer of patients from Assisi home care and day care services to inpatient service. Plan-Do-Study-Act cycles are ongoing.

Results:
The number of prescriber errors has decreased from 41 to 21 post intervention from October 2021 to March 2022 demonstrating sustainability of the interventions. Rotating doctors through Assisi now undergo a formal orientation on prescribing which includes education on the approved abbreviations list and ‘Do Not Use Abbreviation List’. Staff are encouraged in reporting near misses with modified incident report (IR) form which has been created for ease of reporting.

Conclusion:
Quality improvement is an ongoing journey and is essential to improve patient safety. Engagement and buy-in from staff is important to ensure success of interventions implemented and in achieving sustained improvement.
TO INCREASE AWARENESS OF NURSES IN IDENTIFYING PATIENTS WITH AVF/AVG IN WARD 54D WITHIN 3 MONTHS

Ling AW, Sinnappan T, Liew YS, Guo X
Singapore General Hospital

Aim(s):
Patient safety is a healthcare discipline that emerged with the evolving complexity in health care system and resulting rise in patient harm in healthcare facilities. The project aims to increase nurses’ awareness in identifying patients with arteriovenous fistula and graft. This helps to decrease the percentage of errors that may potentially cause serious problems, compromise patient safety and prolongs hospitalization stay.

Methodology:
A small focus group was formed to discuss on the topic to prevent similar incident from happening again. Brainstorming was used to identify the root cause to the problem, and we came up with a solution to solve the issues encountered. Creation of pictorial hand signage indicating which arm precaution patient is on and this is placed on the patient’s dashboard at the nurses’ station as well as patient’s white board at the head of the bed. Nurses are orientated on the new work process.

Result:
There have been zero incidence in blood taking and intravenous cannulation from arteriovenous fistula/ graft to date since the project started. Staff also feedback that they were more vigilant when attending to patient as hand signage were able to catch their attention.

Conclusion:
Through creating pictorial hand signage, nurses can identify instantly patient’s hand precaution. This prevented errors from happening and allowed nurses to provide safe care to patients. With this, we can also use it for other similar patient’s vital information that requires nurses to be aware of. Feedback was obtained from the nurses, allied healthcare professionals and doctors after the implementation. Nurse Clinicians ensured nurses’ compliance in placing the pictorial hand signage. New nurses and trainees posted to the ward were orientated and briefed on this work process.
FIRE QI
Goh MJA, Andrew TC, Zainuddin Z, Zhao Y, Sanwasi S, Lau A, Mohd Amin NA
Singapore General Hospital

Aim(s):
Increase the knowledge and confidence level of Ward 68 nurses in evacuation of patients during a fire outbreak within 18 months.

Methodology:
New survey form created to assess Ward 68 nurses’ fire evacuation knowledge. Nurses’ confidence level in handling fire evacuation was assessed using Likert scale. Created new fire evacuation plan and conduct a mock fire drill to observe time taken to evacuate all patients in Ward 68.

Result:
Timing taken to transfer from Ward 68A to Ward 68B was 13 minutes 34 seconds. During fire evacuation drill, Nurse 1 appeared to be loss on what to do next.

An average of 54.7% of the survey questions were answered correctly. Nurses’ confidence level in handling fire evacuation was 2.82. The following areas were identified:
1) Nurses unclear about the roles during fire evacuation despite having action cards.
2) Frequent changing of fire evacuation plan resulted in confusion.
3) Insufficient exposure on the fire evacuation plan.
4) Many instructions on the action cards for the fire evacuation.

Comparison was made and the following results shown were:
1) Increase in knowledge score from 5.47 to 7.67.
2) Increase in nurses’ confidence level from 2.82 to 3.4.

Conclusion:
The team decided on the following:
1) Reduce to two teams (Walker and Non-Walker teams).
2) Reduce actions cards to Fire Warden, Assistant Fire Warden, Patient Service Associate, Walker and Non-walker leader.
3) Have split roles of Nurse 1 to 2 nurses.
4) Two receiving wards instead of one ward.
5) Conduct 1-2 monthly fire evacuation drill for Ward 68 to familiarise with the fire evacuation plan.
6) Having E-learning on fire evacuation for the nurses.

Two team concept during fire evacuation had been adopted across Singapore General Hospital (SGH). Revisions of the action card were accepted partially as different requirements are needed in different areas.
INCREASE PRECEPTORS’ LEVEL OF CONFIDENCE IN IDENTIFYING STUDENTS WHO REQUIRE CLOSE SUPERVISION AT THE EARLY PHASE OF THE PRE-REGISTRATION CONSOLIDATED PLACEMENT (PRCP)

Lau KY, Binte Seman SN, Cheah LL, Foo YW, Anthony J, Binte Shamsudin HF
Singapore General Hospital

Aim(s):
To increase SGH preceptors’ level of confidence in identifying final year nursing students who require close supervision at the early stage of the PRCP from 30% to 70%.

Methodology:
Pre and post intervention survey was adopted for this QI project.
The proposed PRCP Progressive Evaluation Tool (PET) was shared with the preceptors after conducting the pre-intervention survey. They were briefed and guided on how to use the new tool to evaluate the PRCP students’ progress between week 8 and 9. Our team members were also onsite to provide additional support.
From week 8 to 9, the post-intervention survey was carried out on the same group of preceptors. This survey asked for their level of confidence in evaluating the PRCP students’ performance using PET and identifying any PRCP students who required close supervision.

Result:
The pre and post intervention survey has shown an increase in the preceptors’ confidence level and ability by using the PET. 97% of them have indicated that they have clearer understanding of the expected performance of PRCP students at different intervals of their placement.
The p-value for three of the questions shows that the results are statistically significant (p<0.5) which means that PET is effective in assisting preceptors to identify PRCP students who require close supervision early.
With early interventions and supporting measures, preceptors will be able to close the PRCP students’ learning gaps. There will be annual cost savings in re-training nursing students to graduate from their institutions. Their level of proficiency as a graduate nurse will be higher and do not require extension in probation.

Conclusion:
The PET has helped to address the problems faced by both new and experienced preceptors in early identification of underperforming students with confidence.
REDUCTION OF FENTANYL PATCH RELATED MEDICATION ERROR CONTRIBUTED BY CARE GIVERS IN HOME HOSPICE SETTING

Saw Nandar N1, Koh L1, Goh J1, Tan SC1, Chan C1, Ong EK2, Lo TJ2
1 Assisi Hospice
2 National Cancer Centre Singapore

Background/Aim:
Fentanyl is an important drug used to control pain for palliative care patients and is often applied transdermally. However, Fentanyl patches (FP) may be applied wrongly, putting the patients at risk of adverse effects. The aims of this study is to investigate the factors associated with such errors by caregivers in the home hospice (HH) setting, and, to apply quality improvement methodologies to reduce errors.

Methodology:
There were 3 cases of Fentanyl patch related errors contributed by caregivers from Home Care (HC) patients between June 2020 to April 2021 from the incident reports (IR). The prevalence of medication errors was noted through incident reports and a survey of staff between June 2020 and April 2021. Surveys were also used to elicit qualitative data from staff and caregivers. The data was used to complete a fish bone diagrams and a pareto chart. The first Plan-Do-Study-Act (PDSA) cycle was implemented in October 2021 and resulted in a pictorial pamphlet. The pamphlet was piloted and extended to all patients under our service. A further four PDSA cycles were conducted from October to December 2021 and included refinement of the pamphlet and creation of two videos for caregiver training Point prevalence surveys were used to monitor prevalence of the errors.

Results:
Out of a total of 506 patients, 78 patients were on Fentanyl patches and 8 of them (10.3%) had experienced a fentanyl patch-related error. Five out of the eight caregivers (63%) failed to change the patient in time. Three (37%) resulted from a lack of understanding of the instruction given. The prevalence of fentanyl patch-related errors was reduced and only one error occurred after PDSA 1. Subsequently, no error was found since the completion of PDSA cycle 2.

Conclusion:
This project demonstrated how a quality improvement approach helped to reduce prevalence of fentanyl patch-related medication errors.
**URTI REDUCTION IN BBNH LEVEL 7 (2019 – 2020)**

Abdul LNA, Coronado RC, Coquila RN, Sales VDQ, Saw EKM, Ramachandran J  
Ren Ci Hospital

**Background/Aim:**
In 2018, Ren Ci @ Bukit Batok Nursing Home (BBNH) had a high incidence of Upper Respiratory Tract Infection (URTI) clusters, from nil in 2017 to seven within 2018. This led to increase in workload for staff and anxiety and discomfort for residents’ and their family members.

Aim of this project is for staff to be able to manage the first case of URTI thus reducing the opportunity for it to lead into an URTI Cluster. While the initial plan is to reduce URTI clusters in the entire of BBNH, team decided to pilot in level 7 in view that amongst the seven URTI Clusters in 2018, level 7 had two. This is also to ensure interventions are effective.

**Methods:**
The methodology used for this project is Clinical Practice Improvement Project (CPIP). Key interventions include creating an escalation workflow, developing reading materials and in-house training on droplet management, engaging staff to create their own Respiratory Etiquette posters and evaluation of environmental hygiene via use of Glo Germ gel.

**Results:**
Following our first intervention in March 2019 until current, there have been nil URTI cases reported amongst residents on BBNH level 7. Within this period, we managed to include both the influenza season within 2019 and compared it with other levels as well. While other levels had incidences of URTI cases as well as clusters, there were none in level 7.

**Conclusion:**
Rather than focusing on fresh solutions, we drove to build on staffs’ knowledge and focused on self-empowerment and self-responsibility to drive the culture change. Team also credited Ren Ci’s flu vaccination program that started timely in 2019 that may have led to the possible reduction of URTI cases, keeping in mind that the same program was also available in 2018. Initial resistance was inevitable, but having and involving members local to BBNH and level 7, alongside a Nurse Manager created the rapport, team effort, and commitment, thus paving all the efforts. This led to self-initiative in being responsible for their own improvements and sustainable actions.
MANAGING IRON DEFICIENCY ANAEMIA IN OBSTETRICS AND ITS IMPACT ON RED CELL TRANSFUSION RATE

Han NLR, Sasha SR, Lam CM, Lew E
KK Women’s and Children’s Hospital

Background/Aim:
Because of the risks, costs, and adverse outcomes associated with blood transfusions, recent studies have explored new processes to reduce the number of unnecessary transfusions performed. The primary aim of this study was to investigate the effect of antenatal anaemia screening and iron therapy on the incidence of red blood cell (RBC) transfusion in pregnant women who delivered at KKH, and identify opportunities to improve in the management of anaemia and transfusion.

Methods:
This retrospective study analyzed the data collected during Jan–Dec 2016. The Institution Review Board approval was obtained with waiver of consent. Maternal anaemia was defined according to the UK guidelines. The primary outcome was the percentage of RBC transfusion during pregnancy and up to 6-week postpartum. Relevant obstetric, laboratory and transfusion data were extracted from case records and data warehouse. Univariate and multivariate logistic regression were used to analyze the association between blood transfusion and variables.

Results:
Total 11695 cases were included and overall RBC transfusion rate was 3.8%, with 49.5% indicated by anaemia in their 3rd trimester. Only 5.8% and 7.4% of patients tested their hemoglobin (Hb) levels in the 1st and 2nd trimester although 86.9% did their Hb test in the 3rd trimester. Anemic patients had a significantly higher transfusion rate at 9.9% compared to 2.0% in non-anaemic patients in the 3rd trimester. Among known anaemic patients, 40.2%, 75.4% and 63.6% received iron supplement prescription/intervention during 1st, 2nd and 3rd trimester, respectively. Anaemia in 3rd trimester was independently associated with RBC transfusion (odd ratio, 4.36, 95% confidence interval, 3.49–5.44).

Conclusion:
Strategies to early detection and intervention represents an area for further improvement in the management of maternal anaemia.
MEMBERSHIP QUALIFICATION AND RIGHTS

Membership is open to Singapore Citizens, Singapore Permanent Residents and Non-Residents.

Persons who are below 18 years of age shall not be accepted as members without written consent of their parent or guardian.

Only members who are above 18 years of age shall have the right to vote and to hold office in the Society.

There shall be three categories of memberships. They are as follows:

**Ordinary members**
Ordinary Members are practising healthcare quality professionals, or any person interested/involved in healthcare quality. Ordinary Members must be Singapore Citizens or Singapore Permanent Residents. They have the right to vote and the right to hold office in the Society.

**Corporate Membership**
Corporate members shall be pharmaceutical firms, business, business organisations and other registered bodies related to healthcare quality. A representative nominated by the organisation shall represent each corporate member. Corporate members have no right to vote nor the right to hold office in the Society. The representative shall do both on behalf of the Corporate Member.

**Associate Membership**
Associate members shall be Non-Residents and shall have neither the right to vote nor the right to hold office in the Society.

APPLICATION FOR MEMBERSHIP

A person wishing to join the Society should submit his particulars to the Secretary on a prescribed form.

The Committee will decide on the application for membership.

A copy of the Constitution shall be provided to every approved member upon payment of the entrance fee.

Please kindly refer to the link below to apply for membership:
https://hqss.org/membership/

**NOTE**
Please return the completed application form to HQSS Secretariat at secretariat@hqss.org
HQSS has officially signed the memorandum of undertaking (MOU) for the official Journal of Patient Safety and Healthcare Quality. This is in collaboration with the SingHealth Duke-NUS Institute of Patient Safety and Quality. The MOU signed by Dr Alvin Chang (HQSS) and Prof Tan Kok Hian (IPSQ).

Composition of the Editorial Board:
Editor-in-Chief: Prof Tan Kok Hian
Associate Editors
1. Dr Chang Shang Min Alvin
2. A/Prof Chong Chia Yin
3. A/Prof Ling Moi Lin
4. Ms Pang Nguk Lan
5. Mr Rexford del Rosario

Assistant Editor
1. Ms Annellee Camet
2. Ms Marionette Catahan
3. Ms Zann Foo
4. Ms Tang Xin Yan

Communications and Design Support team
1. Ms Chan Min Yi Charmaine
2. Ms Nurhuda Binte Mohamed Ishak