Quality MATTERS
by NHG Group Quality Resource Management
Issue 15, Jun - Sep 2019

The organising committee of this year's NHG Quality Day 2019, with our keynote speaker Ms Ann Gaffey (8th from left).

SYSTEM RELIABILITY

OUR healthcare system is complex, with the need to coordinate among different stakeholders along the healthcare continuum. As such, errors do occur. When that happens, instead of looking at the individual's role and changes that can be made at that level, we should look to make changes at the systems level.

This was the core message from the NHG signature event, Quality Day 2019. Held this year at Khoo Teck Puat Hospital, it celebrates achievements in quality, service and improvement efforts of both staff and patients from NHG.

This year's theme was 'System Reliability — designing it right, doing it right, detecting the risk right'. This focusses our attention on questions such as, 'How do we ensure system reliability?', 'What is the correct design? What training processes are in place?' And lastly, 'What checks and balances are in place to detect and obviate errors?'

The event was attended by around 300 guests, and the guest of honour was NHG GCEO Prof Philip Choo. We also had the pleasure of hosting an overseas keynote speaker, Ms Ann Gaffey, safety and risk management expert and President of Healthcare Risk and Safety Strategies based in Virginia, USA.

Design it right, do it right, detect the risk right

In her welcome note, Adj A/Prof Wong Moh Sim, chair of this year's organising committee, and deputy CMB, KTPH and

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YCH, used the analogy of a plane in smooth flight — to explain how we could 'design it right, do it right, and detect the risk right.'

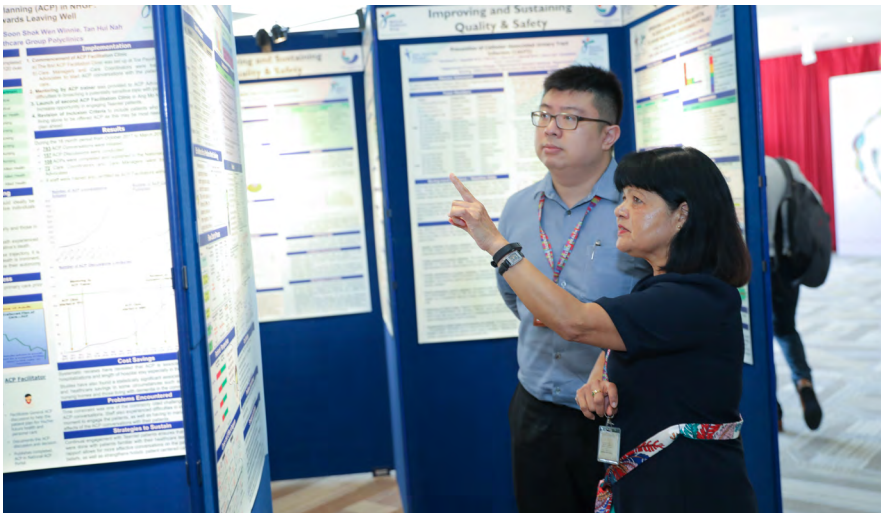
She likened designing the healthcare system to the process of building a plane. A plane needs to be designed right, using precision engineering, if it is to function smoothly. Similarly, for a health system to function well, we need to put in place the right systems and work processes — to optimise healthcare outcomes for patients.

On the other hand, the staff of a healthcare system were likened to a pilot of a plane. Just as a plane needs an experienced pilot to ensure a smooth flight, a health system also needs trained and experienced people who have the knowledge to handle the various exigencies that occur in a healthcare setting. This would then enable risks to be 'detected right'.

High Reliability Organisations

The aviation analogy was also carried through by Ms Ann Gaffey in her keynote speech. In her speech, she focussed on 2 areas — firstly, the key characteristics of High-Reliability Organisations (HROs); and secondly, how healthcare organisations put into practice the concept of 'designing it right, doing it right, detecting the risk right'. She opined that if we can focus on these 2 areas, we would be on the path to achieving system reliability.

She noted that HROs came out of high-risk industries such as aviation and nuclear power. In their daily operations, companies in these industries have to face high-risk circumstances and pressure. Despite the above, they have to achieve specific outcomes. Drawing on the work of Karl Weick & Kathleen Sutland, she shared the 5 defining characteristics of HROs.



Attendees of NHG Quality Day 2019 reading with great interest the Quality Improvement Award (QIA) posters shortlisted for prizes.

NHG staff participating in the pre-award ceremony games and activities.

Preoccupation with failure This refers to organisations keeping a constant lookout for potential errors.

Reluctance to simplify This refers to leaders avoiding simplistic explanations (such as *"they just need more education", "we just need a change in policy", "the staff are just not well-trained"*). These simplistic explanations prevent us from digging deeper to find the real cause of the problem.

Sensitivity to operations This refers to organisations maintaining good situational awareness, based on an understanding of existing conditions in the HRO.

Commitment to resilience This deals with the ability to recognise errors quickly, so as to contain them. In this way, we prevent little errors from building up and causing harm.

Deference to expertise This means acknowledging that the most knowledgeable person in the room may not be the most senior person. That person would more likely be the staff on the ground.

Practical tips — design, do, detect

Ms Gaffey also suggested some practical ways to 'design it right, do it right, detect it right'. For example, to help us *design*

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Chair of this year's organising committee, Adj A/ Prof Wong Moh Sim, Deputy CMB, KTPH and YCH (left), posing with Mrs Chew Kwee Tiang, CEO, KTPH and YCH (right) at the trick-eye display.

processes better, she suggested usability testing, forcing functions, standardisation and digitalisation.

How can we ensure that staff *do* the right thing? She ruminated that one way is through avoiding workarounds, as this skips steps. Other ways include: having a 'just' culture in the organisation, as well as a culture of encouraging staff to speak up, which will deter others from modelling 'undesirable behaviour'.

She also pointed out that there are tools to help *detect* the risk right. FMEA is one such tool, as it is a forward-looking lens. Other tools and aids would be executive walkabouts, culture safety surveys, and near-miss event reporting. In addition, observational audits and event reporting are also tools we can use, as well as feedback from patients and family members.

Technology is also a great aid to detection. She illustrated how the Johns Hopkins Capacity Command centre has a staff of 24, as well as walls of monitors. This allows them to receive both real-time and predictive information. The data then allows them to act in real time to prevent or resolve bottlenecks, to reduce patient wait time.

Awards & staff performance

Following Ms Gaffey's speech, we awarded prizes to our patients and caregivers who have either shown model behaviour in how they have cared for others, or have taken ownership of their health.

Known as the Exemplary Patient and Caregiver (EPCA) awards, one of the recipients, Ms Gloria Tan (NHGP) took the initiative to manage her health when diagnosed with diabetes in May 2018. She joined NHGP's tiered weight management programme, 'Lighter Life Programme', and lost an astonishing 7.2 kg over 10 months.

Another recipient was Mr Lew Chin Woon (YH). He has been married to his wife for 59 years, and became the main caregiver, together with his maid, when his wife was diagnosed with dementia. He read up widely on dementia and joined support groups to widen his understanding and knowledge of the illness.

Despite his wife's worsening condition, he still brought her out for karaoke, and visits to her favourite coffeeshop. He is currently making a memory book for her, and plans to start a blog to share his experiences. In addition, he still finds time to volunteer as a Sunshine Buddy (a volunteer programme at KTPH). He also helps out at group therapy sessions for dementia patients.

In addition to the above 2

The keynote speaker, Ms Ann Gaffey (left), with NHG GCEO Prof Philip Choo, after being presented her token of appreciation, a silk scarf from the Singapore Botanic Gardens (a UNESCO heritage site).

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"We are facing times of tremendous change... with the coming of EPIC & other IT systems. With so much change happening in our system, it's imperative that we *really* design our processes well."

NHG GCQO Adj A/Prof Tai Hwei Yee (right)

recipients, the other EPCA winners were Mr Low Cheok Mung (NHGP) (story featured below); Mr Lim Thiam Beng (TTSH), Mr Victor Lim Hwee Hiat (YH), and Ms Natalie Tan (IMH).

The ceremony also saw awards given out to staff, either for their service levels, or efforts to promote improvement in processes. For the Quality Improvement Awards (QIA), there were a total of 124 projects submitted, with 21 teams awarded prizes. For the Excellence in Action Awards (EIAA), there were a total of 6 team recipients, and 25 individual recipients.

The Accident & Emergency (A&E) Dept of Khoo Teck Puat Hospital (KTPH) presenting a high-energy dance on the topic of patient safety.

In addition to the awards presentation, the audience was treated to a high-energy dance performance by the Accident & Emergency (A&E) department of Khoo Teck Puat Hospital (KTPH). A video (by Yishun Health Corporate Communications) prefaced the dance and reminded the audience of the importance of the International Patient Safety Goals (IPSGs).

A time of change

In her closing address, Adj A/Prof Tai Hwei Yee noted that we are in a time of change, with EPIC and other IT systems implementation. Hence, it is imperative to design our processes well. The changes brought about will affect staff in the way they work, and the way they care for our patients.

She also noted that in the journey we have embarked upon — to change models of care; and to improve the health of our population — it involves us extending out from our normal comfort zones into areas that are unfamiliar and different.

It also means working with people that we have not worked with before and in different ways with our patients and caregivers — so as to create more opportunities for patient empowerment and self-care.

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Dr Guo Weixiao (1st from left) together with the BGM project team. In the photo is also Ms Florence Chng (1st from right), Deputy Director, Clinical Standards & Improvement, YH.

A hand for improvement, an eye for quality

DO you have an elderly relative who suffers from diabetes and is hospitalised? Has he or she ever complained to you about the pain and inconvenience suffered from daily pinpricks for blood glucose monitoring (BGM)? If so, he or she will rejoice about the changes which are being implemented at Yishun Community Hospital (YCH) where doctors are working on reducing the frequency of BGM.

Lack of established guidelines

Due to the lack of established local or international guidelines for BGM, the medical team at YCH found that the frequency of BGM was unusually high in some of their wards. Through attending Clinical Practice Improvement Programme (CPIP) classes, the team found out that one of the main reasons for this was a lack of guidelines to standardise doctors' ordering of BGM tests. Another main cause was the lack of education, both on the part of doctors and nurses, as to the suitable frequencies for BGM.

PDSA cycles & interventions

Led by Dr Guo Weixiao, the team at YCH went through 2 PDSA cycles, where they implemented interventions at 2 pilot wards. In the first cycle, the team in consultation with an endocrinologist, introduced an algorithm for BGM test ordering. Another intervention was education — the aims and details of the project were shared with the doctors and nurses of the 2 pilot wards. Feedback from the first cycle, was that non-standardised comments were being marked on the BGM checklist.

Hence, in the second PDSA cycle, the team showed doctors and nurses the standardised way to fill in the BGM checklist. Another intervention implemented in the second cycle, was strengthening the knowledge of Health Service Assistants (HSAs), who may not come from a traditional nursing background.

Outcomes

The team received positive feedback from the doctors and nurses on the project and interventions. The doctors found one outcome of the algorithm for test ordering was the improved frequency of BGM. Interestingly, doctors were also able to titrate the medications more regularly, as well as review the frequency of BGM test ordering. From the nurses' perspective, the interventions created standardised processes, which saved them time, as well

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as prevented 'confusion on the ground'.

Due to the positive results achieved, Dr Guo revealed that the hospital managed to save $29,618 over 10 weeks. In addition, the team plans to spread the project from the initial 2 pilot wards to 4 pilot wards, and ultimately to the whole of YCH.

Livelisting patients

The second CPIP story we have to share in this article is how the eye team at TTSH led by Dr Don Pek managed to improve their percentage of live-listed patients for eye surgery. For their efforts, they won a Quality Improvement Award (QIA) (one of 2 'best' awards) in the category 'Developing a flexible and sustainable workforce'.

Challenges

Having eye surgery spread over 2 locations — both at TTSH and at NHG 1-Health — as well as the lack of a dedicated eye PACE (Pre-assessment Admission Counselling and Evaluation) coordinator were just some of the main challenges the eye team at TTSH sought to address in their improvement project.

Patients at TTSH eye surgery were given appointments in 1 of 2 ways. One is through the phone, where the operation date is given when the nurse calls the patient; the other is through live listing, where the operation date is given on the same day the patient sees the consultant.

Aims & Causes

Dr Don Pek and his team wanted to move all appointments to live listing, as well as solve the backlog of cases that had occurred from systemic scheduling issues. Through CPIP classes, they found that one of the main causes for the above was the dual location of where patients could have their surgeries, which caused confusion among them.

Another main cause was the lack of a coordinator to coordinate the surgeries between the 2 locations, and the appointments between the various units. A third main cause was a lack of consensus among the consultants as to the total number of cases to be performed.

Lastly, there was no harmonisation of time slots between the different departments where patients had go, prior to surgery, such as between PAT (where all tests necessary before eye surgery is done, including eye investigations and systemic investigations); biometry (where eye measurements needed to select intraocular lens (IOL) is done); financial counselling; and clerking.

PDSA cycles & interventions

Through 2 PDSA cycles, the team implemented interventions to address the problems faced. They appointed a skilful staff nurse to oversee the scheduling of appointments, and gave her protected time for training. Management were also able to contract a new agreement with surgeons that saw an increase in the total number of surgery slots offered. Thirdly, more publicity on the second location, NHG 1-Health was carried out through advertisements on the TVs in the waiting rooms. Finally, harmonisation of the timeslots was achieved through the establishment of a chat group. This created better communication and coordination between the staff of the different departments.

The interventions were successful. From 31.2% (Jun 2018), the median of live-listed patients increased to 74.5% (Oct 2018). This median is currently at 93% as at Sep 2019. In terms of costs, the hospital managed to save $218,000 (annualised) over 6 months of work.

To laughter in the auditorium, Dr Pek remarked that it was important not to be bogged down by what seemed like insurmountable challenges, what he called the 'dragon', but to focus on the prize at the end, what he called the 'princess'. He also encouraged clinicians to "Step into quality improvement, your patients will thank you for it."

"Step into quality improvement, your patients will thank you for it."

Dr Don Pek, project team lead (below)

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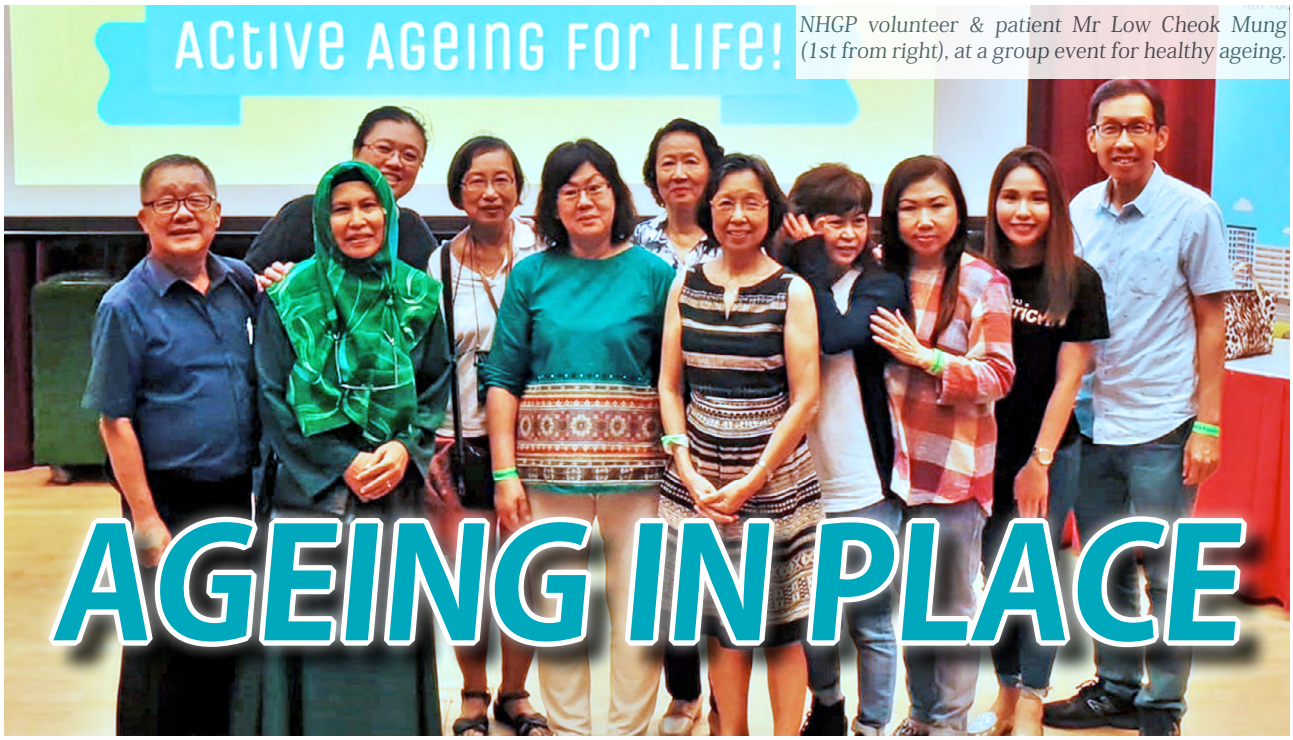

NHGP volunteer & patient Mr Low Cheok Mung (1st from right), at a group event for healthy ageing.

AGEING IN PLACE

AS Singapore's population ages rapidly, it is increasingly important to know the measures that can help us age in place. These can lead to savings for both medical institutions, and patients. For the past one-and-a-half years, Mr Low Cheok Mung, one of the winners of the Exemplary Patient and Care (EPCA) awards, has been 'helming' the Ageing-in-Place (AIP) studio at Toa Payoh Polyclinic.

Ageing in place studio

The AIP studio at Toa Payoh Polyclinic provides visual and physical examples of modifications that can be done to the home. As falls can be fatal to elderly patients, there are many modifications in the studio that focus on fallproofing the home, such as the installation of grab bars and the use of anti-slip floor mats.

Mr Low oversees the replacement of items that need replacing. These include items such as 'grab bars' in the model bathroom; PC power sockets; mats and socks that are soiled; as well as luminous strips on steps that have worn off. There was once when he even personally searched, bought and installed display door knobs for the studio, for which he refused any reimbursement.

Genuine care & sincerity

Mr Tan Boon Tong, Toa Payoh polyclinic's volunteer coordinator, expressed, "Mr Low genuinely cares for all patients alike, and his contributions and involvements are indeed commendable. All of us can feel his sincerity and enthusiasm in wanting to make a difference to our patients and caregivers."

"Mr Low genuinely cares for all patients alike, and his contributions and involvements are indeed commendable."

Mr Tan Boon Tong, Executive, Clinic Operations, Toa Payoh polyclinic, NHGP

EPCA award winner Mr Low Cheok Mung (far left), being presented with his certificate by NHG GCEO Prof Philip Choo, and Mr Tan Boon Tong (far right), Mr Low's nominator.

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Ms Ann Gaffey (middle), at one of the roundtable discussion sessions with NHGP.

THE *RISK* OF NOT RECOGNISING *RISKS*

ON a typical morning beginning at 8:45am, care teams and managers in the hospitals and clinics of a US healthcare system will gather together for a brief 15 minutes. They will discuss on topics such as "what went well in the past day and who do I have to thank?", "what happened in the past day that had caused harm?" and "how else can we do better?"

This format is then repeated four more rounds, with each round involving a higher tier of leadership. At each tier, needs that can be addressed at that level are resolved, while remaining ones, along with accumulating data, escalate up. By 10am, all vital information would have reached the executive leadership.

Such daily safety huddles provide a great real time opportunity for healthcare leaders to gauge safety and create a shared mental model of how the day will look like, noted Healthcare Risk and Safety Strategies President Ms Ann Gaffey.

She was addressing a crowd of over 100 staff at the Centre of Healthcare Innovation on 9 September, illustrating how a simple yet powerful tool was able to help the Salt Lake City-based Intermountain Healthcare ensure daily alignment of its 23 hospitals and 170 clinics.

This was one of the sessions from a series of talks, roundtable discussions and workshops on Healthcare Risk Management and Clinical Governance, organised by NHG as part of the 2019 MOH HMDP Visiting Expert Program.

Throughout the two-week program in September 2019, Ms Gaffey constantly reminded organisations to consider both the downside and the upside when dealing with risk.

Risk is not necessarily bad

"Risk just means uncertainty — neither good nor bad," she explained, citing an example of

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how even asking someone out for a date could elicit a positive or negative outcome depending on the other party's response.

Risk-based decision making thus allows us to consider an array of possible outcomes that could potentially give rise to both value protection and value creation.

Think Future, Think Big

Ms Gaffey also stressed the importance of understanding what is considered mission critical for the organisation before developing risks that are more forward thinking.

One such example was cybersecurity risk, since "it only takes one person to bring the organisation down".

With an increasing focus of shifting care into the community, Ms Gaffey further highlighted the need to identify risks involved in deploying staff into this new setting, as well as ownership or accountability issues involved within a shared care model.

Think Different, Think Across

To develop a more holistic view of risk, Ms Gaffey said that organisations should consider all threats and opportunities based on the ten risk domains (see figure below), and work on connecting the dots across them.

To facilitate this, she shared that it would be useful for organisations to start from a clinical or patient safety concern which most healthcare professionals are familiar with, before mapping out into the other nine domains.

"We really need to expand our lenses and look at the bigger picture, by considering all domains in risk management, not just focus on clinical or patient safety risks," she urged.

Set the Tone from the Top

In any organisation, leadership plays a pivotal role in Enterprise Risk Management and establishment of the risk culture.

"If you don't have a positive culture that supports risk activities like speaking up, reporting and looking out for new risks, you are basically working in a vacuum," Ms Gaffey pointed out as she was leading a group of 30 NHG Clinical Board members in a workshop session held at Yishun Community Hospital on 10 September.

"Senior leaders are therefore responsible for setting the tone, bringing work purpose back to

staff, and driving a safety culture."

These could be further achieved by articulating the organisation's strategic plan and risk appetite — which offers directions to staff on the amount of risk that the organisation is prepared to undertake in pursuit of its mission.

Ms Ann Gaffey providing her advice at one of the site visit sessions with YH (left photo), and delivering a keynote address at the NHG Quality Day 2019 (right photo).

"The persons closest to the work are usually the most knowledgeable about its process."

Ms Ann Gaffey, HMDP Visiting Expert

All Hands on Board

Last but not least, Ms Gaffey believes that this culture of safety should permeate throughout all ranks to enable collaboration within and across teams.

To that end, the organisation needs to equip all staff with basic risk management principles and standardised communication tools so that a common language can be established. Adequate infrastructure support should also be developed, to make it easier for staff to speak up and report on any safety issues. This allows organisations to understand which areas are not working well and how to work better.

"The persons closest to the work are usually the most knowledgeable about its process. Regardless of seniority, they are the ones whom you should consult to understand the risks involved in that work process," she exhorted.

"Leaders should therefore help create a good speak-up culture by making staff feel empowered — that their opinions truly matter and are appreciated."

Ms Ann Gaffey engaging the NHG Clinical Board members in an active discussion at one of the workshop sessions.