NHS
Specialised Clinical Frailty Network

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Clinical frailty scoring results in more tailored interventions at Barts Health NHS Trust

Introduction

The Specialised Clinical Frailty Network (SCFN) is exploring how specialised services can improve the way they deliver care and treatment to people with frailty. Standard specialised care pathways may not always be appropriate to the needs and preferences of more vulnerable patients, where there are greater risks of longer hospital admissions and increased mortality.

The Network's collaborative improvement programme, delivered by NHS Elect, helped NHS trusts to improve the way they identify frailty and make better treatment decisions that would improve patient outcomes. The first wave included renal dialysis, complex cardio surgery and interventional cardiology, and chemotherapy. There were up to five trusts in each specialised area.

This is the experience of one of the complex cardiac surgery (TAVI) sites…

Adult patients who need an aortic valve replacement but who may not be appropriate for conventional surgery may be given a transcatheter aortic valve replacement (TAVI) procedure instead. The procedure entails inserting a catheter with a balloon at its tip into an artery and then moving this into position in the heart. The catheter is inflated within the opening of the aortic valve and a new tissue valve is inserted, before both catheter and balloon are removed.

Barts Health TAVI service

Most patients undergoing TAVI are over the age of 75 years and are likely to have comorbidities. Barts Health provides tertiary and secondary TAVI services across North East London and beyond. Nearly half of its TAVI patients are over 85 years old and a large proportion of them have frailty indicators.

The hospital has a large TAVI team, managing high volumes of patients in the state-of-the- art King George V building. This team includes five interventional cardiologists, four clinical nurse specialists, three clinical fellows, anaesthetists, operating teams and ward teams, supported by a senior management and administration team. With the TAVI catchment area continuing to expand and the hospital on target to increase the number of TAVIs performed from 385 patients in 2018 to 420 patients in 2019, Barts Health wanted to ensure that older patients with frailty were receiving the best possible treatment.

Joining the Specialised Clinical Frailty Network

Unlike some of the other SCFN Wave One sites, Barts Health was already using the Rockwood Clinical Frailty Scale (CFS) to record frailty when it joined the Network.

Darren Barnes, Senior Improvement Manager and Patient Engagement and Experience Lead explained "We have been recording frailty scores on a stand-alone database of TAVI patients since 2015, as part of the required NICOR (National Institute for Cardiac Outcomes Research) dataset. Despite this, our responses to patients identified as frail were less clear. There are no geriatrician services on the Barts Health site and no staff training to raise awareness of frailty across all specialities.

Throughout the TAVI team's years of operation, we had observed that the more frail a patient was before their TAVI procedure the greater the impact on things like patient experience, length of stay, 30-day and one-year mortality, and quality of life. Our primary objective in joining the Network was to improve the entire TAVI pathway."

How they define frailty

Barts Health define frailty as a declined functioning that increases a person's dependency and required support. The assessment of frailty is made independently of age and, importantly, identifies the likely degree of frailty for an individual.

Melanie Jerrum, TAVI Clinical Nurse Specialist said "Utilising the Rockwood CFS we could identify those patients that would fall into this group and aim to initiate supportive measures to ensure that they are able to continue their current level of functional capacity."

Aims and objectives

The frailty improvement programme set out to achieve 100% compliance for how the TAVI team assesses frailty and then uses this information to initiate the correct medical, nursing and therapy care interventions.

Darren said "By ensuring we initiate appropriate care interventions, we are aiming to a reduce the number of occupied bed days, improve 30-day and one-year mortality rates, enhance post-procedure quality of life and improve patient experience. The TAVI frailty project supports the site's strategic objective of getting from 'good' to 'outstanding' in the CQC Safe domain."

To achieve its goal of improving the entire TAVI pathway, the improvement team agreed the following aims and objectives for the project:

- To ensure that all TAVI patients receive a pre and post-procedure clinical frailty score assessment, and mobility and exercise tolerance test.
- To ensure that the clinical frailty score is communicated, accessed and utilised by the team across the whole pathway.
- The project team to include geriatrician, polypharmacy, advanced nursing and therapy input.
- To ensure that pre, intra and post-procedure care optimises patient recovery and reduces length of stay (Benchmark Enhanced Recovery pathway).

Outcome measures

At the outset of the project, the outcome measures were agreed as:

- Occupied bed days (St Bartholomew's and DGH)
- Financial impact
- 30-day and one-year mortality rates
- Advanced care planning/end of life care
- Patient experience
- Hospital acquired patient harms (hospital acquired pressure ulcers, hospital acquired infections, falls, post-procedure delirium)

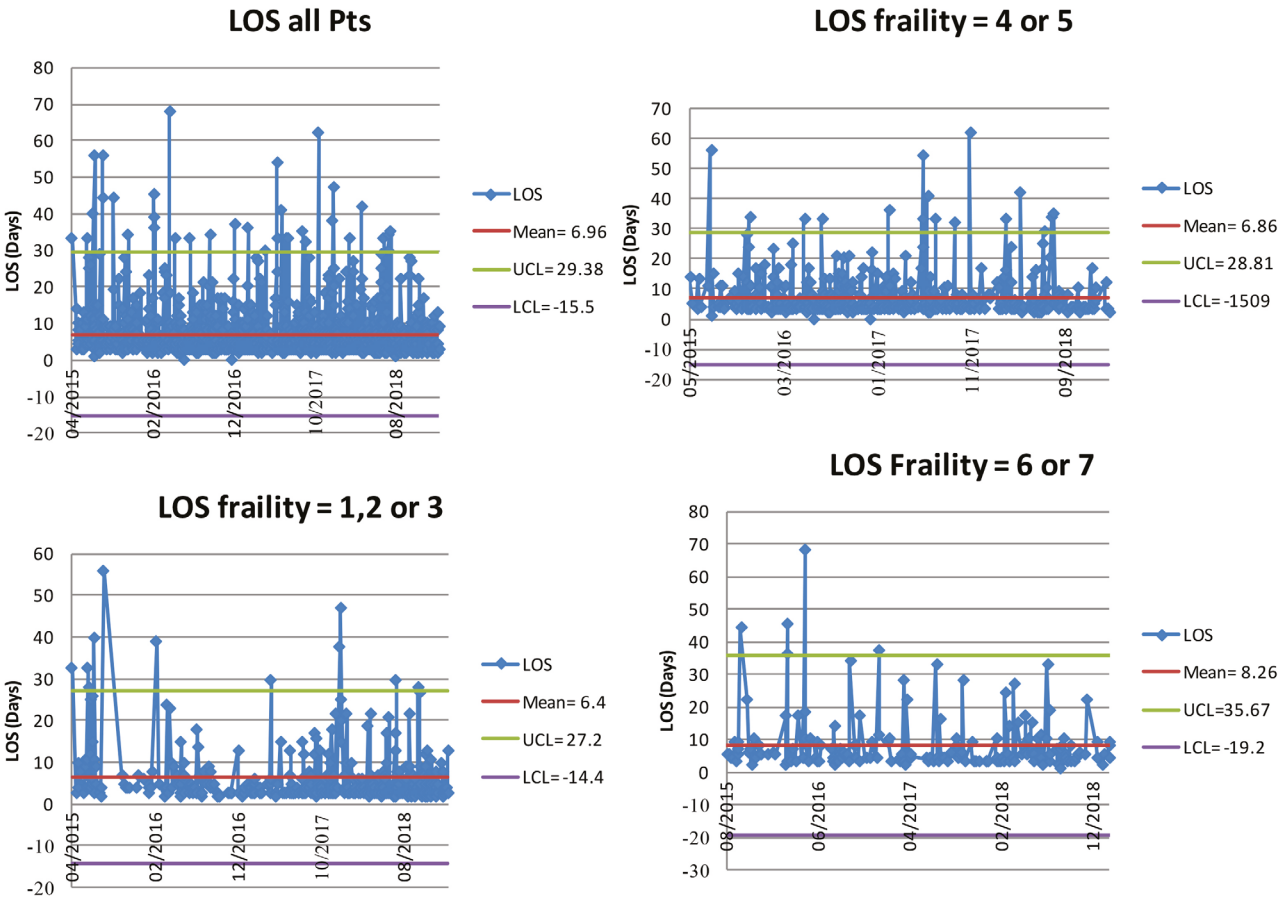
What they did

Process mapping

As well as looking at the number of CFS assessments taking place prior to the multi-disciplinary team (MDT), the team felt it was important to identify 'waste' as a process measure.

It undertook several process mapping exercises, looking at the current processes and identifying the optimal processes. The balancing measures were identified as patient experience, unnecessary investigations, delays in procedure and transfers.

The team chose to display length of stay (LOS) by CFS score (see graphs below). The graphs show that as the frailty score increases so too does the current average LOS.



Inpatient and outpatient referrals

The team believed that to have the greatest impact on the patient journey through the TAVI pathway, it was important to record and act upon clinical frailty scores as early as possible.

Helen Queenan, TAVI Clinical Nurse Specialist said "Through our process mapping we identified two pathway routes - inpatient referrals and outpatient referrals. Firstly, we amended our inpatient referral form to include clinical frailty scoring as a mandatory requirement. By persistently reinforcing this requirement, clinical frailty scoring is now well-embedded among referring trusts, with around 99% of referring centres completing the CFS."

To encourage staff in outpatient settings to undertake clinical frailty scoring, education sessions were held to explain the importance of CFS and to ensure staff were using it consistently.

MDT meetings

The next step was to use clinical frailty scoring in MDT meetings as an aid to decision-making about patient care plans.

Kerry Bedford, TAVI Clinical Nurse Specialist said "We started using clinical frailty scoring as part of our MDT slide requirement and also included a CFS guide as part of our MDT list. To help educate staff on assessing patient frailty,

we developed a 'get-up-and-go' video that is modelled on the Timed Up and Go test (TUG). The video, lasting less than a minute, shows a patient rising from their chair, if they are able to do so, walking three metres forwards then back to their chair and sitting down again. Members of the MDT found this video extremely helpful in remotely assessing patient frailty and their general health."

Comprehensive geriatric assessments

For patients scoring a CFS of six or above, Barts Health introduced a requirement for them to undergo a Comprehensive Geriatric Assessment (CGA). They found that patients in this group tend to be predominantly inpatient referrals, so assessments can be undertaken locally.

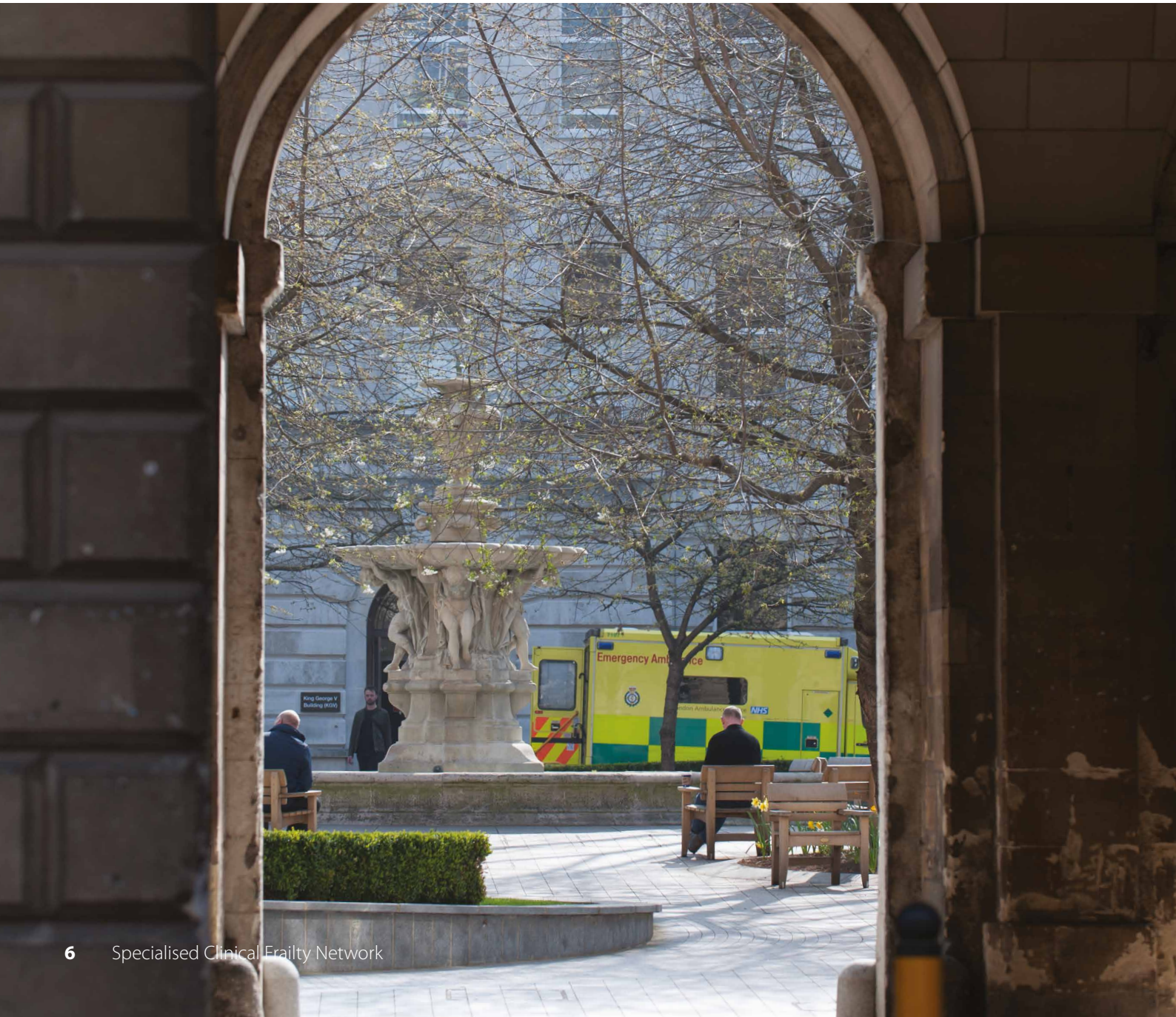
Benchmark Enhanced Recovery pathway

The hospital now uses clinical frailty scores as a part of its inclusion criteria for the Benchmark Enhanced Recovery pathway for TAVI patients. This pathway aims to reduce LOS for patients undergoing TAVI. It admits those who are considered suitable on the morning of their procedure and includes a plan for early discharge the next day.

Patient experience

The experience of patients on the TAVI pathway was considered a key outcome and balancing measure. The team adapted the Network's Experience Based Design (EBD) questionnaires to use in both outpatient and inpatient settings. It used a PDSA (plan do study act) approach to test out patient responses to the survey questionnaires.

The results indicated that there is an opportunity to improve the patient experience at the beginning and end of the pathway. The team has connected with the NHS England patient experience team and is planning to co-design these improvements alongside patients.



Impact

Better decision-making

By increasing the understanding of frailty and the recording of clinical frailty scores, Barts Health has improved the way patients with frailty are identified and the MDT is finding it easier to make effective treatment decisions, in conjunction with patients.

Simon Waller, Interim Senior Nurse for Electrophysiology and Intervention explained "Discussions with physiotherapy and occupational therapy leads have led to a reduced number of referrals to therapies by the TAVI team and, most significantly, more tailored interventions and improved decision-making with both the patients and their families. We are currently undertaking a review with therapies to compare clinical frailty scores with therapy referral rates and the requirement for increased therapy support. Working closely with therapies in this way has improved working relationships with specialities, which is an additional benefit."

Fewer inappropriate interventions

The use of clinical frailty assessment has led to patients with greater levels of frailty being referred for a CGA. Prior to working with the SCFN, Barts Health had not considered this. It has proved beneficial in identifying both patients who would benefit from intervention and those who would not. The result is patient-specific interventions, collaboratively achieved with all members of the MDT, families and patients. It is believed this will have a positive impact upon patient experience.

Patient experience

Patient experience has been a key metric for Barts Health to measure the impact of its frailty improvement work. Patients are encouraged to map key touchpoints in their journey using EBD. The team is endeavouring to collect data in both inpatient and outpatient settings.

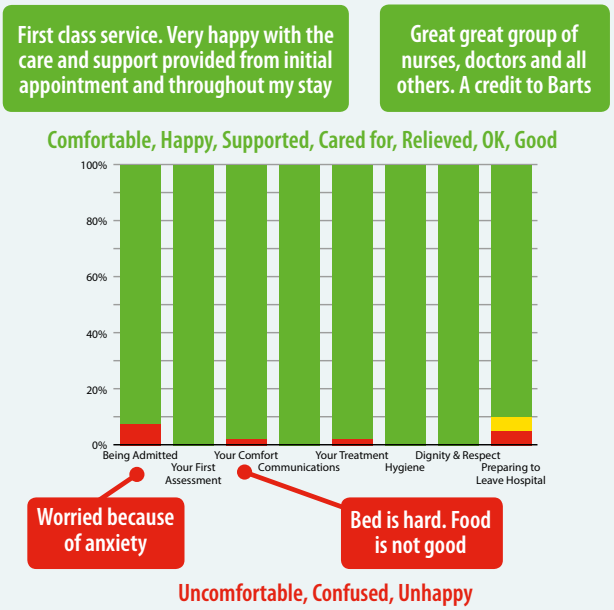
Preliminary data of 59 patients collected in the inpatient setting is shown in the Emotional Map. More than 93% of patients reported feeling happy in relation to the admissions process, while around 6% were sad. On preparing for discharge, 91% were happy while around 3% were indifferent and 5% were sad.

Among the comments, patients said things like:

- 'Very Happy'
- 'Explained Very Well'
- 'First Class Service. Very happy with the care and support provided from initial appointment and throughout my stay.
- "Nurses keep telling me I will go home but haven't said when. I'm not clear where I will be discharged to."
- "Worried in case anything happens."
- "No carer at home."

This data has been processed by the SCFN team and is being used to contribute to service evaluation and on-going service development. The results have also been shared with nursing and medical teams to positively highlight the standards of care they provide to TAVI patients. TAVI patients have been invited to a patient engagement event at which each of the EBD touchpoints will be discussed and action to address them agreed.

Emotional Map



Reduced length of stay

LOS for TAVI admissions has been reduced from three days to two days as a result of the Benchmark Enhanced Recovery pathway. The clinical frailty assessment has been included as part of the inclusion/exclusion criteria for this pathway. Patients identified with mild frailty and below were included in this pathway. This group of patients were given same day admission for their procedure, with an aim for an early discharge home the following day as the team identified that there were little comorbidities or other factors that would potentially impact their stay and delay discharge home.

Patients with a greater degree of frailty were excluded from this pathway. Identifying a greater degree of frailty at this point in their care pathway ensured that potential reversible causes of frailty were considered. The aim was that by reducing LOS for patients with mild or little frailty, there was more capacity to create patient-tailored interventions for the group of patients with more complex care needs.

The team expects that having two identifiable TAVI pathways that could be utilised, will result in a positive patient experience as their pathway is much more patient-specific.

Challenges

Sustainability

At the start of the programme in October 2018, Barts Health used the Sustainability Model diagnostic tool to understand what likely challenges would be and to highlight the potential for improvement.

Melanie said "The tool was used to assist us to implement and sustain our improvement initiative. A score of 55 or higher is a good indicator of likely sustainability while 45-55 suggests that teams will need to consider what actions they need to take to increase the potential sustainability of the initiative. Below 45 indicates a need for immediate action to tackle gaps. We achieved an overall average score of 69.6, which was encouraging."

The Sustainability Model report indicated that there were certain areas that required action. These were identified as infrastructure for sustainability, senior leadership engagement and clinical leadership engagement.

Darren said "Ensuring the improvement effort is supported during and beyond the formal life of the project means making sure everything is in place to help those involved to understand their role and responsibilities in delivering or supporting the improved service. This is important in order to reinforce the improvement as 'the way we do things around here.'"

Lack of geriatric support

In a practical sense, the lack of geriatric support on site was a major challenge.

Helen said "Our initial steps to overcome this were to ask the local hospital – our referring centre - to organise a CGA. Additionally, we have liaised with a geriatrician at one of our main referring centres who has kindly agreed to undertake CGAs for specified patients."

Key success factors

A strong and cohesive project team

The team chose a quality improvement manager as project manager, to ensure that the person driving the project had the right skills to identify the other roles that were needed and could set baseline measurements and achievable outcomes within the project timeframe. Alongside the project manager they appointed senior nurses, clinical nurse specialists, senior therapists and business intelligence leads to the project team. Each was allocated outcomes according to their strengths and roles within the organisation, and the improvement team quickly developed a shared purpose and fostered a culture that supported improving the service.

Executive support

The team recognised at the outset that a respected executive board leader with an investment in the improvement work being planned would have a positive influence and help overcome barriers.

Kerry said "It is important to work with the executive lead to ensure the aim of the project clearly links to the strategic aims of the organisation. Keeping them involved in the progress of the project is crucial to its success. The executive team saw this as key to ensuring effective 'board to ward' feedback within the organisation but also to providing feedback externally to NHS Elect and specialist commissioners. Subsequently, the hospital Medical Director undertook this role, providing excellent strategic leadership and closing the inter and intra-organisation feedback loop."

Dr Edward Rowland said "As the complexity of our patients increases, this project is a fantastic example of staff from all disciplines coming together to make changes that produce safer care and more efficient use of our resources.

The learnings from this project will inform future work, including a roll-out across the wider cardiology team at St Bartholomew's Hospital.

I would like to thank NHS Elect for their support with this project and pay tribute to colleagues at Barts Health NHS Trust for championing this work which will have a real impact on patient outcomes."

Agents of change

The team also recognised that clinicians are powerful agents of change and that, without their support, sustainability would be difficult.

Darren said "It is important to involve them from the time of design and throughout the process, demonstrating the benefits of the change for patients, themselves, other staff and the organisation and clearly articulating the impact that their involvement would have. The clinical lead needs to champion the change and communicate the project aim through their networks."

The Barts Health TAVI lead consultant, Mike Mullen who is internationally recognised for acclaimed work in structural cardiology, was assigned to this role. Not only did this ensure that the improvement work fed into the strategic aims of the organisation and motivated the improvement programme team, but it also ensured that the work was in keeping with international clinical advancements and patient experience improvements in TAVI care.

Consultant clinical lead, Mike Mullen said "Being involved in the SCFN has advanced our understanding of this very important aspect of caring for elderly patients and using measurements of frailty to improve shared decision making. This has positively impacted patient experience and LOS for our patients. Additionally, through our work with the Network we have influenced referring centres to consider patients' frailty prior to referring patients to us, thus resulting in identification of reversible causes of frailty, comorbidities and social care needs early in patients' admissions."

Support from the Network

Involvement with the SCFN provided vital support for the project. The team from Barts Health attended Network days where they were able to discuss strategies and measures for improvement with Network staff and other organisations undertaking frailty work.

Darren said "Regular bi-weekly calls with our Network contact guided us through the process and advised on next steps that we could take. The Network team used the CFS data we had collected over the past four years to demonstrate our hypothesis that the higher the CFS score, the greater the risk of 30-day and one-year mortality. The EBD patient feedback questionnaire enabled us to start gaining patient feedback in both the inpatient and outpatient setting almost immediately."

Key learning

As a result of this project, Barts Health has seen clearly how clinical frailty scoring contributes to planning appropriate care for patients and ensuring they receive correct interventions before, during, and after their TAVI procedure.

The project has promoted ongoing evaluations of how to organise post-procedure rehabilitation, if required, and how to identify the need for this at the earliest opportunity. They have also learnt the importance of sharing patient frailty data with the teams providing care so that correct provision for patients' needs can be made.

Next steps

The important next steps for the TAVI team are to recognise and address frailty at the beginning of their journey through the TAVI pathway.

Melanie said "By process mapping the TAVI pathways we identified that our patients wait longest for investigations after their initial clinic assessment. Using this wait to address some of their frailty issues would have a positive impact upon the patient journey further down the pathway and we are keen to begin implementing this."

The team at Barts Health also wants to extend the use of clinical frailty scoring by involving geriatric assessment and polypharmacy. In circumstances where patients are waiting in provider hospitals for transfer to Barts Health for assessment and TAVI, they are keen to explore how they can link with these centres to minimise the effects of patient de-conditioning. They recognise that bed rest can affect post-TAVI recovery and are interested in the possibility of early implementation of physiotherapy/occupational therapy input.

The team also hopes to obtain direct geriatrician support on the Barts Health site.

SCFN at NHS Elect
LABS Hogarth House,
136 High Holborn, Holborn,
London WC1V 6PX

Tel: 020 3925 4851
Email: networksinfo@nhselect.org.uk

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