TeleHealth
Empowering the Patient
Supporting the Team

The Benefits of Nursing Triage to the TeleHealth Service within Northern Ireland - Learning and Reflections on the SET COPD Model

Robert T. Moore
Lead Nurse Advisor Fold TeleHealth
Fold wishes to acknowledge the active involvement of the staff within the Community Respiratory Team(s) within the South Eastern HSC Trust in the development of this respiratory TeleHealth model, in particular Barbara Hanna, Specialist Respiratory Nurse.

This TeleHealth journey has been one of partnership working, of learning, of critical conversations and discussions, leading to new ways of working and a journey of new relationships with patients and others.
A consideration - What matters most to patients and service users?

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<tr>
<td>• I am recognised for what I can do rather than assumptions being made about what I cannot</td>
<td>• I can make my own decisions, with advice and support from family, friends or professionals if I want it</td>
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<td>• I am supported to be independent</td>
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<td>• I can do activities that are important to me</td>
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<td>• Where appropriate, my family are recognised as being key to my independence and quality of life</td>
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<td>• I can maintain social contact as much as I want</td>
<td>• I can build relationships with people who support me</td>
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<td>• I can plan my care with people who work together to understand me and my carer(s), allow me control, and bring together services to achieve the outcomes important to me</td>
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<td>• Taken together, my care and support help me live the life I want to the best of my ability</td>
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The first of National Voices’ narratives on person-centred coordinated care.

This narrative is commissioned by NHS England on behalf of the National Collaboration for Integrated Care and Support.

It sets out what matters most to patients and service users and develops ‘I Statements’ from the perspective of service users.

Taken from: A Narrative for Person-Centred Coordinated Care. National Voices & Think Local Act Personal (2013)
About the Author

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In his role as Lead Nurse for primary care specialist nursing services within the South Eastern Trust, Robert has worked with telehealth from the Trust’s inception in 2007. He is an advocate for information and digital technologies when they are used to create new ways of working that support both staff and patients, positively impacting on professional practice and that change the way that care and services are delivered.
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Executive Summary

The delivery of health and social care has become a substantial challenge, mainly because of the ageing population and the increasing prevalence of chronic diseases.

The need for new care models and technologies to support long-term care has never been greater. This paper demonstrates that telehealth, when properly implemented and embedded, supports patients to self-manage their health condition and provide earlier clinical intervention where necessary – providing better health outcomes and reducing demand on overstretched acute services.

Fold’s TeleHealth services have been designed to build upon the growing interest in utilising technology to support patients to self-manage long-term health conditions. In December 2011, Fold, together with our TF3 Consortium partners Tunstall and S3 Group, were awarded contracts for this service with all five Health and Social Care Trusts in Northern Ireland.

This paper outlines the development of a telehealth service model in partnership with the South Eastern HSC Trust that supports people living with chronic obstructive pulmonary disease (COPD) who have frequent exacerbations of their condition, which very often result in hospitalization.

The patient is at the heart of this service delivery model. Patients are able to take their own clinical measurements using technology which records data relevant to their condition. These measurements may include such things as weight, pulse, temperature, and blood glucose and oxygen levels as selected for them by their clinician. They answer a series of pre-programmed questions about their health often on a daily basis.

The Fold triage nurses provide a seven day 9-5 primary point of contact for these patients by reviewing their clinical data and the responses to their pre-programmed questions. By analysing the data and through telephone conversations, the triage nurses use assessment, problem solving interventions, behavioural change engagement, and onward referral to the CRT, if necessary, as their primary therapeutic interactions. They offer support and advice to the patient regarding the self-management of their condition and initiate interventions that help the situation from escalating and give the patient some control e.g. recognizing the early stages of an infection and determining the best course of action. Appropriate medical intervention can therefore be planned rather than having patients just turning up at the door of the Emergency Department. Less than 10% of patients triaged on a daily basis are referred onward for specialist review by the CRT.
In reality, the local CRTs carry an active caseload and they carry a ‘telehealth’ caseload, with the understanding that the latter group are being supported, monitored and co-managed by the triage nurses – who in essence become an extension to the service. Daily service provision consists of an ‘active’ caseload that forms a scheduled workload for the CRT of home visits or clinics and those in receipt of telehealth constitute an ‘unscheduled’ or some may say an ‘within arm’s reach’ caseload – where the CRT may have to respond to patient if their alerts identify a problem that cannot be addressed by the triage nurses. This unscheduled intervention hopefully will pick up a patient prior to an exacerbation and instigate earlier treatment. It gives real-time actionable clinical information enabling focused interventions – better case-management and decision making processes.

For patients, this service provides peace of mind that their condition is being monitored on a regular basis. The service also provides a patient portal for those who wish to follow their own progress in terms of trends, potential early warning signs and receive health messages. Patients grow in the understanding of their condition and how best to manage it, while also experiencing greater freedom to progress with their day-to-day lives without the fear that their condition is deteriorating. In their words;

“It gives me knowledge of my own condition and lets me know what to keep my eye on …It also makes me feel more involved.”

“You feel in control, not somebody else. You feel in control of your own health and what’s going on. It gives you a certain amount of independence, and responsibility that you’re not relying on somebody else all the time.”

An important aspect of the role of the triage nurse is the social support that they provide adding to the overall value of the service. Having conversations with the triage nurses provide additional avenues to improve the patients’ knowledge promote health messages and motivate them to change behaviours that will help their condition management. Sometimes it is emotional support and on other occasions, it is acting as an advocate for the patient e.g. contacting their GP on their behalf. Carers and family members too benefit from the reassurance that the patient’s condition is stable.

There is an overall recognition of the volume of work that the triage nurses undertake in the background in terms of triage, advice, signposting before contacting the TKW. This is particularly pertinent with out-of-hours support at weekends and bank holidays were staff link the patient with the GP out-of-hours service and occasionally, the emergency services.

Often, the patient in receipt of telehealth will contact the triage nurses first, as they know that they are more accessible i.e. not out and about seeing patients or in clinic.
From a benefit realization perspective within the South Eastern HSC Trust’s CRT there is evidence that identifying triggers that indicate that a patient is deteriorating is helping the service to respond sooner to initiate clinical interventions.

“You feel in control, not somebody else. You feel in control of your own health and what’s going on. It gives you a certain amount of independence, and responsibility that you’re not relying on somebody else all the time.”

Having this ‘virtual’ team monitoring a group of potentially ‘at risk’ patients gives the CRT time to concentrate on the ‘higher priority’ patients. It also means that a higher number of respiratory patients have a service in between periods of hospital outpatient attendances and acute episodes. For the CRT, this supports better caseload management and has reduced the need for some home visits allowing better use of staff time and resources without compromising care. It also increases the time spent delivering direct care by reducing time lost by travel especially in the more rural areas of the Trust.

The true value of the telehealth triage service is in empowering patients to understand their condition and for them to respond accordingly to changes in their clinical measurements. Telehealth sits neatly within the ethos of the Transforming Your Care programme aiming to support people to live as independently and healthily as possible, for as long as possible and making it easier for people to access health and social care should they need it.

In his recent expert panel report to the Minister for Health, Professor Bengoa noted that: “Advances in telecare, telemonitoring and electronic assistive technologies are also making a significant difference to the way services are delivered…enabling patients to live independent lives for longer and engaging patients in their own health and well-being.”

This paper also reflects the reality that community respiratory service provision via telehealth is broader than just condition management. People do not define themselves by their condition and are focused on living their lives. In assessing the value of telehealth, we need to consider what is being measured as successful outcomes which are equally as valuable as avoided emergency department attendances or hospital admissions – for example, maintaining independence and social interaction.

It supports Professor Bengoa’s call to “aggressively scale up good practice” and the vision outlined in Health and Wellbeing 2026 of “realising the potential of technology to improve outcomes and free up time for front line staff”.

Kevin McSorley
Fold TeleCare Executive Director
1.0 Introduction

In the developed world, the delivery of health and social care has become a substantial challenge, mainly because of the ageing population and the increasing prevalence of chronic diseases. Therefore, the need for new care models and technologies to support long-term care has never been greater.

TeleHealth is emerging as a technological innovation that has the potential to support long term care and promote well-being. It facilitates information exchange between patients and health professionals enabling individuals to have some of their health and social care needs met in their own homes. It uses technology to transfer physiological data used by healthcare professionals for diagnosis and monitoring purposes e.g. blood pressure, oxygen saturation, pulse, weight and blood glucose. By transmitting this information electronically to their healthcare professional based elsewhere, this data can be used to identify signs of deterioration to prompt earlier clinical interventions with corrective action to prevent further deterioration and hopefully prevent admission to hospital or escalate, as appropriate.

One group of patients that have frequent exacerbations of their condition are those people living with chronic respiratory disease. While some flare-ups remain unreported, others end up in visits to the emergency department, which very often result in hospitalization. It has been reported that about one-third of these patients will be seen again or admitted to hospital within the subsequent two months. Within the South Eastern HSC Trust (SET), the Community Respiratory Team (CRT) have been utilising TeleHealth since 2011 to support this group of patients assisted by a small nursing triage team within the Telemonitoring NI Service. The CRT service utilizes telemonitoring as a tool to help support good ‘home control’ of patients with COPD (chronic obstructive pulmonary disorder) to make possible an early detection of an exacerbation resulting in earlier interventions, aiming to avoid hospital admission and slow disease progression.

The purpose of this paper is to reflect on our telemonitoring journey supported by Triage Nurses, to illustrate the benefits of TeleHealth and share our experiences to encourage other healthcare professionals to utilize the service to the benefit of the patient whilst promoting equity of access.
2.0 Background

TeleHealth and home care is fundamentally changing the way that health and social care is being delivered. Demographic, clinical and financial pressures faced by health and social care providers are leading to the adoption of innovative methods for delivering care (Rutter and Barrett, 2012), which for some are a vehicle to address many of the pressing issues currently challenging the NHS and health care systems around the world.

For example, in England, the Whole System Demonstrator (WSD) Programme was launched in May 2008 which at the time was the largest randomised control trial of TeleHealth and telecare in the world. This was commissioned by the Department of Health, involving 6,191 patients and 238 GP practices across three sites (Newham, Kent and Cornwall). It focused on three conditions: diabetes, COPD and coronary heart disease (3,030 people) looking at cost effectiveness, clinical effectiveness, organisational issues, the effect on carers and workforce issues.

The headline findings launched in December 2011 demonstrated that, if delivered properly, TeleHealth can substantially reduce the need for admissions to hospital, lower the number of bed days spent in hospital, reduce the time spent in A&E and reduce mortality. This in turn became the catalyst to the launch of the “Three Million Lives” campaign bringing together the Department of Health, industry, the NHS, social care and professional partners working together to develop technological solutions to support people to live independently, take control and be responsible for their own health and care.

Around the same time, in Northern Ireland, there were a number of small pilot TeleHealth projects underway. Within the Lisburn Locality of what was later to become part of the South Eastern HSC Trust, the Community Respiratory Team were piloting TeleHealth with a private provider. They received some funding for a small study in 2007 and followed 22 patients over a 12 month period. Two of the key findings were a significant reduction in face to face calls (24.53%) and a decrease in hospital admissions (11.77%). What was evident in this small study was that prior to the introduction of TeleHealth, this group of patients had accumulated 120 hospital bed days and post implementation, the same group only utilised 72 bed days. This demonstrated a 40% reduction in bed days with an average reduction of 2.26 days in length of stay.

The demographic, clinical and financial pressures being faced by health and social care in Northern Ireland were highlighted within a regional review of the health and social care in December 2011 which saw the launch of Transforming Your Care (TYC). This document illustrated the challenges presented to HSC organisations by a growing and ageing population; the increased prevalence of long term conditions; the increased demand and over reliance
on hospital beds; the supply difficulties of a clinical workforce which have put pressure on service resilience; and the need for greater productivity along with value for money.

Transforming Your Care proposed a new service model underpinned by 12 key principles for change which included maximizing the use of technology and incentivizing innovation at a local level. Other key messages within the document included placing the individual at the centre of the model by promoting better outcomes for the service user, carer, and their family; providing the right care in the right place at the right time; integrated care - working together; promoting independence and personalization of care; and ensuring sustainability of service provision. Transforming Your Care (TYC) set the strategic direction of providing more care at home and less reliance on hospitals. In essence, it promoted supporting people to live as independently and as healthily as possible, for as long as possible - it’s about getting better at preventing ill health in the first place but making it simpler to access health and social care should people need it.

It is clear that maximizing the use of technology continues to be high on the health and social care agenda and this has been captured within the Northern Ireland draft Programme for Government 2016-21 which makes reference to the fact that……

“People who have care needs tell us they want to have these met at home as long as possible. Not only is this understandable from their personal perspective, there is also significant evidence that this helps maintain independence for longer. For this reason we are committed to increasing the availability of home care and support for people, particularly those with high levels of care needs. As the population ages, and the number of people with complex care needs increases, the need to provide appropriate care and support becomes even more important.

Innovative approaches such as ‘re-ablement’, ‘telecare’ and ‘TeleHealth’, which use new technology to support people at home, will have an increasing part to play.”

(p60)

Within Northern Ireland during 2011, following some pilot projects, a regional TeleHealth service (Telemonitoring NI) became operational. This was the outcome of a complex procurement process to provide an end-to-end remote TeleHealth service as part of NHS service modernisation for patients/ clients living with complex long-term conditions such as chronic obstructive pulmonary disorder (COPD), diabetes, heart failure and stroke.

This service contract was awarded to TF3, a consortium comprising of Tunstall, Fold TeleCare and S3 Group. By providing a regional TeleHealth service it was envisaged that this would help accelerate the adoption of TeleHealth and related
technologies across the region, by providing a service with a single point of access for a range of TeleHealth services that would be scalable, mainstream, with an end-to-end service which would add clinical value by having a 7-day clinical nursing triage service. Clearly, this service would support the delivery of Transforming Your Care and within SET, respiratory patients requiring TeleHealth support were transferred to this new service in December 2011.
3.0 The COPD SET Model

3.1 An outline of the respiratory service model within SET

The South Eastern Health & Social Care Trust was established on 1st April 2007 and is one of 5 HSC Trusts within Northern Ireland. The Trust is an integrated organisation, incorporating acute hospital services, community health and social services serving a population of approximately 440,000 people with a budget of approximately £540 million.

The Trust covers the local government districts of Ards, North Down, Down and Lisburn. In addition to its geographical urban/rural spread, there is also a noticeable diversity in its population characteristics, embracing areas of relative wealth and prosperity as well as pockets of considerable deprivation and need.

Respiratory services are provided across both acute hospital settings and primary care therefore requiring ‘joined up’ working. The Community Respiratory Teams provide care and support to patients in their own home or in a local clinic setting depending on their clinical status.

These patients typically have a diagnosis of COPD or other chronic lung conditions such as asthma, bronchiectasis, COPD, interstitial lung disease or pulmonary fibrosis. Each patient is assessed on an individual basis with social support included as part of their assessment.

As patients travel through their disease trajectory, the team endeavours to meet changes in their condition and when they reach the palliative care stage, the teams have developed their skills set to support these patients at home with support from District Nursing, as required.

The daily service provision by the Community Respiratory team includes:

- Medication management including inhaler technique/compliance and nebuliser therapy
- LTOT education and management
- Support Visits – patient starting an exacerbation
- Airway/chest clearance
- Breathlessness management
- Pacing
- Ambulatory Oxygen assessment and provision
- Palliative Care
- Promoting expert self-management plan
- Smoking Cessation advice
- Home Exercise Programmes
- Pulmonary Rehabilitation and Maintenance Classes
• TeleHealth
• Carer Assessment and support
• Nebuliser equipment loan.

All of the above is delivered by three community teams of nurses and physiotherapists covering four localities over a 9am - 5pm Monday to Friday service equating to 12 wte staff (a number are part-time) with no out-of-hours service provision. Each team has an ‘active’ caseload and every effort is made to discharge patients back to the care of the GP, if there has been no direct service involvement within 6 months. However, due to the nature of COPD, the patient can self-refer back to the service at any time and therefore one can argue that a dormant caseload exists in the background.
Within the SET Community Respiratory Team, TeleHealth has become part of everyday clinical practice as a tool to support the delivery of respiratory health care services and to help patients get a good ‘home control’ of their condition. Structurally, what does this look like?

At a Trust level, a TeleHealth Services Manager (TSM) is in post to support the development of TeleHealth across the organisation within the areas of COPD, diabetes, heart failure and stroke, along with any areas interested in utilising the technology. This role is integrated into this person’s substantive post rather than a dedicated post which makes it all the more challenging. As well as promoting new ways of working using TeleHealth, the role is also about ensuring the system runs smoothly for the clinical staff without adding unnecessary workload, resolving issues with stakeholders, promoting the service and acting as the link between the staff, TF3 and the Centre for Connected Health within Telemonitoring NI.

In describing and reviewing the deployment of TeleHealth within the SET Community Respiratory Service and how it has positively affected patient care it may be helpful to frame these comments broadly around Donabedian’s Quality of Care model (1985) using three key variables - structure, process and outcome. Structure includes the human, physical and financial resources (i.e. inputs) that are needed to provide TeleHealth as part of the respiratory teams’ service delivery. Process of care is the set of activities that goes on between practitioners and patients – those characteristics that have a direct influence on the health of patients. Outcome is the change in patient’s current and future health status which can be attributed to the preceding health care i.e. TeleHealth. (See below and Appendix 1).
To enable the Trust staff to utilize the service, some work had to be completed around the local Trust/HSC ICT infrastructure with interface adjustments to facilitate access to the ICP Gateway. This provides a single-point of access to the TF3 applications (Triage Manager/On-Line Forms/Reporting Service) including patient data readings and triage notes. Staff wishing to use TeleHealth adopt a TeleHealth keyworker (TKW) role and have a dedicated electronic account set up via the TSM and the Fold Business Account Manager under their local team. This gives the TKW access to the following elements of the service: clinical triage; service desk support; a clinician portal, a patient portal; reporting tools; performance management reports; and training manuals.

From the patient perspective, there is a 7 step pathway through the service which is managed by the TKW with input from the Triage Nurses and the Fold service desk. These steps are:

1. Patient identification and referral
2. Patient enrolment on the service
3. Patient self-management support
4. Patient monitoring services
5. Escalation of issues
6. Self-management and education
7. Patient review, discharge and outcomes
Within SET, the Community Respiratory Service is delivered Trust wide from three offices in Bangor, Downpatrick and Lisburn providing a service to those people within the former council areas of Ards, Lisburn, Down and North Down. Each team has an ‘active’ caseload which equates to a service total (Trust wide) of approximately 500 patients with various respiratory conditions as aforementioned along with those who have reached the palliative stage of their condition. Patients are referred to the service via the hospitals, GPs, other healthcare professionals and the patient can self-refer at any time. The teams are made up of nurses and physiotherapists linking closely with consultants and other colleagues in the acute hospital settings. Due to the urban/rural mix of some localities, driving can ‘eat into’ the working day in terms of time and cost. The monthly mileage returns reflect the diversity of the work with staff claiming mileage varying from 50 to 600 miles. (AfC 2016: 50p for 1st 3500 miles and 20p thereafter). Clearly, staff aim to cluster essential home visits within the same vicinity to minimise travel time.

From the outset, since introducing TeleHealth into the Community Respiratory Service it would be fair to suggest that the teams have had to experiment with the system to build up their confidence in working with the technology. In addition, the new dynamic of the Triage Nurse required some consideration in bringing some additional clinical support to the patient and the respiratory service. It has been a case of “how do we make this work for the team and our patients?”

Frequent discussions, considerations and debates have been important in developing how the Trust utilises TeleHealth. Team meetings, supervision, internal/external engagement opportunities along with Fold Triage Nurses visiting the Trust and Trust staff visiting Fold have ensured an open dialogue for service improvement. Having a TSM with a nursing background and who had management responsibility for the CRT has probably been advantageous to facilitate clinical discussion and challenge in service meetings and provide a link to other Trusts and Telemonitoring NI at regional events. At a local team level, having TeleHealth champions has been helpful to promote and encourage other staff to engage with the service.

Understanding the technical aspects of the service is important but a greater challenge for the staff was building up a body of knowledge and experience of how, why and when TeleHealth is appropriate for the patient. Teams concurred that this could only be done by considering all patients for the service rather than ‘boxing’ patients into certain types – this often lead to discussions regarding patient suitability in team meetings. It was by engaging with patients and those who wished to avail of the service; by developing relationships and working with patients in conjunction with the Triage Nurses - the team became better at identifying those patients for whom TeleHealth could support self-care and improve clinical outcomes.

Through time and experience, this in turn has reduced unnecessary work by minimising unsuitable referrals. It also has brought some resource gains into the CRT via the Triage Nurses engaging with the TeleHealth patients in the first instance enabling the CRT to concentrate on their more unwell patients. This period of ‘testing’ the system was critical.

In other Trust services when Telemonitoring NI was introduced, some staff referred only a handful of patients without persevering to become competent in patient identification and referral. These staff
did not give themselves time to become proficient with the electronic referral and by wanting ‘instant results’ rather than growing experience some became negative, critical and didn’t want to engage. However, at a later stage, some of those who initially appeared unmoveable revisited the service to test it against a specific patient. If they found some benefit to their clinical practice which had a positive effect especially when it could be time-saving and impacted on caseload prioritisation, this germinated future referrals and TeleHealth started to mainstream in their practice.

The patient pathway starts with patient identification, enrolment and referral. In terms of criteria, all referrals to the Community Respiratory Team are considered for TeleHealth on an individual basis and the benefits discussed over a number of conversations with the patient. The team have found this to be a better and more efficient approach as opposed to a ‘blanket approach’ of putting everyone with a diagnosis of COPD onto the service. On reflection, the service was probably a bit rigid with its initial criteria whereas now further down the road the service is more flexible.

Typically, it is normally the person who has had a hospital admission with a confirmed respiratory COPD diagnosis and who has been referred to the community team. The CRT would normally focus on the patient’s immediate health needs and address these with other first line interventions such as pulmonary rehabilitation and smoking cessation, with TeleHealth at a later stage. However, if there is an indication that the patient has had 3-4 infections prior to hospital admission, then the team will consider TeleHealth at an earlier stage of the patient’s disease trajectory.

TeleHealth would not be considered for someone whose condition is stable, those who are receiving palliative care and those whose condition is so severe that hospital admissions are the desired outcome regardless of home monitoring. Other factors jointly considered with the patient include their motivation and ability to upload data, home environmental factors and lifestyle factors such as employment work patterns. The patient is made aware of the accessibility to support from the Triage Nurses, the role of alerts, the question trees and the equipment used to upload the data. The patient is also advised that the service is time-limited (initial installation for 26 weeks) and the service is formerly reviewed at 13 week intervals, both in terms of their clinical condition and also their experience of TeleHealth. If TeleHealth is not proving beneficial to either the patient or the CRT, consideration is given to discharging the patient from the service.

At the start, the service operated fairly rigidly within 13 week timeframes with the expectation that equipment would be uplifted at the end of the time period. For some patients this would be extended if there was progress and they required further support. Some staff have opted to work within a 26 week time-frame as they find this a more efficient use of their time in terms of service processes but continue to work within the 13 week blocks or...
shorter, as necessary. This has proved more efficient and flexible in terms of their time.

In referring patients, the team are clear that the introduction of TeleHealth is a joint decision which may take a couple of conversations. Once consented and enrolled onto the service, the patient is provided with the equipment (patient hub and peripherals) and a demonstration on how to use the equipment is provided by Fold’s support officers in the home. Once installed, this is followed up by a ‘welcome to the service’ telephone call by a Triage Nurse.

There is normally a ‘settling-in’ period for patients as they get used to TeleHealth and the associated monitoring. For some, uploading vital signs data and answering a set of condition specific questions by pressing some buttons takes a bit of practice. So, during the early days of the service, the Triage Nurses are expected to support, educate and provide the extra reassurance needed to help the patient get accustomed to the technology, which has the added benefit of building up a rapport.

The service also provides a patient portal for those who wish to follow their own progress in terms of trends, potential early warning signs and receive health messages. This is one aspect of the service that is under-utilised and could be promoted more effectively. Some patients wish to see their own clinical information and for others, they are content to know that a nurse is ‘keeping an eye’ on them and is at the other end of the phone. Whatever, their approach to TeleHealth, there are opportunities to promote self-management and education either via the patient portal or via the TeleHealth nurse or TKW.

To keep patients engaged with TeleHealth, the service has to be flexible in its approach to the upload of the clinical data to fit with the patient’s lifestyle which is built into their care plan. This is something that is discussed by the TKW at the initial stages of enrolment and may need some adjustment to suit both parties, once installed. Patients can upload their clinical data as often as they like on a daily basis or increase their uploading if they think something in their health status is changing. Some patients are in employment and others have family commitments or routines which the service accommodates.

From the respiratory team’s perspective, if the patient’s data falls outside their agreed clinical parameters thereby causing an alert which cannot be resolved by the Triage Nurse – ideally the respiratory staff like to hear about this as early as possible within the day to give them the opportunity to adjust their scheduled workload to respond e.g. by midday rather than at 4.30pm. Patients are therefore encouraged to upload their daily readings, as early into the day as possible, as the Triage Nurses have a two hour window to respond to data/alerts that are significantly outside the agreed clinical parameters.

Getting patient parameters (marginal/critical) established at the time of referral is helpful but a degree of flexibility is required to adjust these to what are ‘normal’ for the patient. This is where conversations between the TKW, the Triage Nurse and patient help ‘paint a picture’ of what is normal so that when alerts are triggered, there is a stronger likelihood of a clinical change in the patient requiring some triage intervention and follow-up. Default parameters may be appropriate if these are not set at the time of referral but should be replaced with a patient specific set as soon as possible. Clearly, there are benefits for all three parties when establishing practices around agreeing the clinical parameters and planning the day.
Monthly meetings and individual staff supervision with the TeleHealth Service Manager (TSM) ensures that TeleHealth is always on the agenda and although service performance is reviewed, it is not always the main focus. What is more important is to give the staff the opportunity to discuss their issues as they grow in experience of using TeleHealth and working with Triage Nurses. For example, how, why and when to use TeleHealth? What patients are suitable? How to tailor TeleHealth to the needs of the patient and the service? How long patients should be monitored? Situations where TeleHealth was unsuitable? This along with twice yearly meetings with professionals from other Trust services using TeleHealth and regional engagement meetings provide forums to share learning and challenges is all linked via the TSM to Telemonitoring NI.

On a daily basis, TeleHealth is one of the many activities that require to be managed within a multifaceted service. As illustrated earlier, staff are in a daily routine of service led clinics, home visits, outpatient clinics, rehabilitation classes phone-calls (to/from GPs, patients, consultants, laboratory, managers, wards), mandatory training, staff education and all the associated administration. By introducing TeleHealth - was this just another activity with limited evidence about its successful application and effectiveness? It would be fair to suggest that embedding TeleHealth into daily clinical practice took a bit of time and it needed to be adapted to operation of the local CRTs – so even within one Trust there are slight variations of how the local CRT manage their TeleHealth patients despite the service principles being broadly the same.

For example, in one team, there is a mobile phone carried by one staff member on a daily basis to take calls from the Triage Nurses, as required and within the other two teams, the Triage Nurses have direct access to the mobiles of the key worker (2nd and 3rd responder details on the system). The CRT like to get their calls from the Triage Nurses in ‘real-time’ rather than picking up messages from a call-centre which gives them time to respond and clearly, earlier in the day is preferred. It also means that when staff are out on calls, they are not going back to the office to get a message to go out again, this is particularly pertinent when the patient may be in the same vicinity. This supports the care process between the patient, the Triage Nurse and the key worker.

In reality, the local CRTs carry an active caseload and they carry a ‘TeleHealth’ caseload, with the understanding that the latter group are being supported, co-managed and monitored by the Triage Nurses – in essence, an extension to the service. Daily service provision consists of an ‘active’ caseload that forms a scheduled workload for the CRT of home visits or clinics and those in receipt of TeleHealth constitute an ‘unscheduled’ or some may say an ‘within arm’s reach’ caseload – where the CRT may have to respond to patient if their alerts identify a problem that cannot be addressed by the Triage Nurses. This unscheduled intervention hopefully
will pick up a patient prior to an exacerbation and instigate earlier treatment without hospital attendance. It gives real-time actionable clinical information enabling focused interventions – better case-management and decision making processes. Although, a group of patients within the caseload are benefitting from the Triage Nurses monitoring the patients, it is advisable that the TKW visit the Triage Manager to review their TeleHealth patient caseload at intervals during the week. As mentioned earlier, all TKWs are set up with local COPD team accounts giving them access to the ICP Gateway giving direct access to the triage manager – where they access the patient’s data, the nursing triage notes and where they can add to the notes or leave information for the Triage Nurses.

In reviewing their patients, each team may do this differently but they find this particularly useful first thing on a Monday morning and on a Thursday afternoon – in terms of managing their workload. On a Monday, staff can go ahead and identify those patients who have alerted over the weekend and who may have had an ‘out-of-hours’ GP contact – rather than wait for a phone-call from the Triage team when the CRT are physically out on calls. These enable the CRT to schedule a home visit with those patients who may need it following a telephone call from the team.

Later in the week, the CRT reviews the caseload again to determine if there is anyone who may need seen by the team before the weekend. In between, the CRT relies on the Triage service to flag up concerns regarding ‘alerting’ patients. One message that the CRT staff give to patients is that “if you take unwell on a Friday night – don’t wait until Monday – upload and respond your data, contact the Triage Team and they will link in with the GP Out-of-Hours service.” The Triage Nurses provide service cover over the weekend as a point of contact.

From the patient perspective, the CRT are very clear that TeleHealth is not for everyone and if there is any indication that someone is struggling with it - it is reviewed and removed. It can be perceived for some patients as an intrusion to their privacy if phone calls to alerts are frequent and obtrusive – again, the wishes of the patient are respected.

However, for the bulk of patients they find the service to be very beneficial and this has been identified through an internal SET service-user satisfaction survey (May 2014) and external work carried out by the Patient and Client Council in 2014 and Queen’s University Belfast in 2015-16.

“It gives me knowledge of my own condition and lets me know what to keep my eye on …It also makes me feel more involved.”

“You feel in control, not somebody else. You feel in control of your own health and what’s going on. It gives you a certain amount of independence, and responsibility that you’re not relying on somebody else all the time.”

“I can read my SP02 from my finger and I can take my blood pressure, I can weigh myself and take my temperature, but that’s the mechanical part of it, that’s using the machinery if you like, but it doesn’t tell me a lot personally, maybe it tells whoever’s monitoring it at the other end.”

“In our particular case, we’re not experts in what’s wrong with us but it’s an understanding of what happens ‘if’ and what happens ‘if not’, and you can take appropriate action.”

(For more service-user feedback from both internal and external sources, please see Appendix 2.)

This positive engagement of patients with the TeleHealth service and their feedback has helped influence staff to further utilize the service.
Outcome(s): What happens to the patient’s health? What are the end results of CRT TeleHealth health care practices and interventions?

Regionally, Telemonitoring NI has provided an end-to-end managed TeleHealth service for the population of Northern Ireland. It continues to work with Trusts to promote the uptake of these services and to consider other ways of using technology to help improve the health of the population with the aims of supporting the modernisation of service delivery; providing more and better targeted proactive support to patients; and bringing timely information to professionals to inform patient-centred case management.

The Centre for Connected Health and Social Care (CCHSC) through funding Service Level Agreements (SLAs) and providing supportive challenges to Trusts continues to promote the utilisation of the Telemonitoring NI service.

From a benefit realization perspective within the South Eastern HSC Trust’s CRT there is evidence that identifying triggers that indicate that a patient is deteriorating is helping the service to respond sooner to initiate clinical interventions. This relies on setting individual parameters (marginal and significant) for the patients rather than relying on defaults – this may mean a few visits to the Triage Manager on the ICP gateway during the first two weeks but by reviewing these and adjusting accordingly - it reduces unimportant alerts and unnecessary work.

When enrolling a patient onto TeleHealth, the team has adopted a more flexible approach to the time-frames within which they are working to. Initially, staff worked within tight 13-week periods with the aim of discharging at the end of that time-frame. Now, they enroll the patient for 26 weeks, but review more frequently to determine if the patient is getting a benefit from the service i.e. learning how to respond. By being flexible, the service can be withdrawn sooner, if the patient is finding it intrusive to their lifestyle or at a time, when the patient has the confidence to manage without the additional support. Due to the nature of respiratory conditions and the impact of seasonality, the service has the flexibility of being reintroduced to those patients who come off the service after benefitting from it but who wish to have some ‘back-up’ during the winter months with a review at the end of the following spring. This gives patients re-assurance and a sense of being supported with the Triage Nurses picking up on any changes/concerns without going through to the Respiratory team on every occasion.

Having this ‘virtual’ team monitoring a group of potentially ‘at risk’ patients gives the CRT time to concentrate on the ‘higher priority’ patients. It also means that a higher number of respiratory patients have a service in between periods of hospital outpatient attendances and acute episodes. For the CRT, this supports better caseload management and workload with TeleHealth as part of the overall managed service. It has reduced the need for some home visits allowing better use of staff time and resources without compromising care. It also increases the time spent delivering direct care by reducing time lost by travel especially in the more rural areas of the Trust.

As previously identified, it is important to give staff the opportunity to meet to discuss TeleHealth and it is also been beneficial having local clinical champions available to encourage and support staff to utilise the service. In SET, the twice yearly TeleHealth professional meetings give the staff forums to reflect, review and learn from what other colleagues are deriving from the service. A key
ingredient to the utilisation of TeleHealth is that staff must reach a point where they believe TeleHealth is an efficient use of resources allowing them to stay more connected to patients at home without added burden. For some staff, the ‘track and trend’ works better for them, whereas for others, the daily monitoring by the Triage Nurses provides an extension or resource to the service, ensuring that someone monitoring and providing pre-emptive support, helping the Trust key-workers in their caseload management and prioritization. TeleHealth has not replaced staff nor has it negatively affected professional-patient relationships, which for some teams, may have been a concern at the outset – this has been reinforced in recent staff recruitment and formal feedback from the patients.

With increased utilisation of the TeleHealth service, the actual costs associated with providing the service reduce. This is something which I would suggest that staff struggle to understand. One of the benefits of having more patients on the Telemonitoring NI service results in an overall lower service cost. This currently sits at approximately £1.32 per day per patient for those on the triage service – which equates to less than 3 miles car travel reimbursement without the addition of the hourly rate of the health professional which at Band 6 is £17.84 an hour.

At a Trust level, TeleHealth has been embedded across the Trust with different services utilising it in different ways – COPD, diabetes; heart failure, stroke and weight management. It has provided professionals with an alternative way of supporting and clinically managing their patients outside a clinic setting. Monthly activity and usage reports are reviewed and the teams were provided with information from the reports relevant to their services (non-personalized) i.e. No. of new referrals; installations, de-installations per team. This gives staff an indication of the usage of the service against what the Trust is aiming to provide.

Across these long term conditions, it would be realistic to say that the volume of patients on the TeleHealth service has occasionally ‘waxed and waned’ with staff dipping in and out of the service. Some Trust services have been higher users than others and it would be wrong to make comparisons as not all teams have the same staff numbers or structure and some services are further along the TeleHealth journey. The Trust wishes to increase exposure to the service and within the CRT we are fortunate to have junior physiotherapy staff who are part of a Trust rotational scheme which brings physios into the service on a time-limited basis. The team have taken the opportunity to give these staff experience of the service with TKW accounts and hope that they will influence the usage of TeleHealth in the future.

In summary, from a service management perspective, as the CRT review the TeleHealth patients by revisiting the parameters and alerts, this enables a remote review of the patient’s condition which can be as effective as a home visit. This has brought the team some productivity gains from reduced face-to-face patient contact i.e. replacing home visits; eliminate unnecessary travel and the ability to work with more patients within the working day. This is particularly helpful with a service that reaches into the remote/rural areas within the Trust.
A seven day 9am - 5pm clinical nursing triage team is incorporated into the Telemonitoring NI managed service model. This is a group of 10 NMC registered nurses (mainly on part-time hours) with various years of clinical experience and clinical backgrounds who provide a tele-nursing role at a distance from the patient via remote monitoring. At peak periods, four nurses are on duty with two nurses for the remainder of shifts covering Northern Ireland which is less than 1 nurse per Trust over 7 days. These nurses provide a triage service and are not directly involved with patients who may be on the ‘track and trend’ service.

TeleHealth nursing delivers nursing care in a non-traditional manner - with no physical connection between the nurse and the patient. The Triage Nurse’s work at identifying patient problems in real time. This is captured through the data obtained from the home deployed TF3 monitoring devices. Using this uploaded clinical data and working within the parameters set by the TKWs - they initiate a plan of action if the clinical data deviates from agreed parameters. The nurse’s work with the patient to initiate interventions that help the situation from escalating and give the patient some control e.g. recognizing the early stages of an infection and determining the best course of action. Appropriate medical intervention can therefore be planned rather than having just turning up at the door of the Emergency Department.

By supporting the ‘good home control’ of patients living with a long term chronic disease, triage helps make an early detection of changes in a patient’s condition with the Triage Nurse supporting the patient to the right level of care with the right provider in the right place at the right time (Blank et al., 2012, Rutenberg & Greenberg, 2012) or communicating directly with the TeleHealth key worker/named clinician on their behalf.

The Triage Nurses function as a primary point of contact for those patients referred to the service by their Trust Telecare Key Workers. Patients are often aware that a nurse is ‘keeping an eye’ on their vital signs and contacting them, if anything is amiss or the patient may phone in directly to the Triage Nurse, if they have any concerns or if they are unable to make contact with their TeleHealth keyworker. By analysing patient data and through telephone conversations, the Triage Nurses use nursing assessment, intervention, and referral as their primary therapeutic interactions.

As suggested by Wild Iris (2014), these can be summarised as four key functions – helping, diagnostic, crisis-intervention and monitoring:

1. The **helping function**: creation of a therapeutic relationship through 1) attending to (listening) or “presenting” (i.e., being present), 2) maximising patients’ control, and 3) providing comfort and connection through the voice (rather than touch). This is something which patient feedback clearly identifies as being important to those in receipt of the service.

2. The **diagnostic function**: Although the Triage Nurse role is not intended to provide a diagnosis - within limits and using their clinical knowledge, skills and judgement - nurses can detect and document significant changes in the patients’ condition, perform pattern recognition and matching, anticipate problems, and formulate treatment options whilst liaising with TeleHealth key workers, as appropriate.

3. The **crisis-intervention function**: As Trust provision for the long term condition management provision in mainly delivered during office hours, the Triage Nurses often are aware of rapidly changing situations particularly at weekends and public holidays occasionally casting them into the role of first responder to liaise with the GP-out-of-hours service or 999.
4. The **monitoring function**: Tele-nurses advise and monitor simple home treatment interventions and instruct patients in self-evaluation along with reinforcing health promotion messages. This helps free up the keyworkers to concentrate on those that are more acutely ill on their caseloads.

Within the current service model, one function that is missing from the above classification is a **‘follow-up’ function**. This is when the Triage Nurses contact patients who are not uploading their clinical data. This may be just a simple telephone reminder to do so or the conversation may highlight a practical or technical issue where the patient may require some assistance with e.g. some remote training about using the system/equipment or booking a service engineer to address a technical issue – work that is managed within the triage team and doesn’t get added on as another activity for the CRT.

Tele-nursing, in the absence of traditional face-to-face nursing interactions, requires excellent communication, assessment, listening, and critical-thinking skills to develop therapeutic nurse-patient relationships to influence patients’ healthcare decisions in a positive fashion.

Within the Community Respiratory Team (CRT), the triage component of TeleHealth is an important ‘virtual’ extension of the team. They monitor and engage with those patients whom the CRT wish someone to ‘keep an eye on’ whilst they concentrate on those patients who are more clinically unstable in their caseload. Both teams (CRT and the Triage Nurses) have built up relationships over the last 5 years and understand their roles. This has been helped with by joint visits to Fold by Trust staff and having the Triage Nurses in the Trust to shadowing the team plus weekly contact on the phone. The Triage Nurses have also got an understanding of the patterns and ways of working of those who hold the patient caseload.

An important aspect of the role of the Triage Nurse that adds overall value to the service is the social aspect of the support provided. Having conversations with the Triage Nurses are additional avenues to improve the patients’ knowledge, promote health messages and motivate them to change behaviours that will help their condition management - something that should not be underestimated but is hard to quantify apart from the qualitative feedback from patient and carers captured in surveys. On other occasions, it is emotional support and on other occasions, it is acting as an advocate for the patient e.g. contacting their GP on their behalf.

There is an overall recognition of the volume of work that the Triage Nurses undertake in the background in terms of triage, advice, signposting before contacting the TKW. This is particularly pertinent with out-of-hours support at weekends and bank holidays were staff link the patient with the GP out-of-hours service and occasionally, the emergency services. Often, the patient in receipt of TeleHealth will contact the Triage Nurses first, as they know that they are more accessible i.e. not out and about seeing patients or in clinic. There is often a degree of protectionism for the staff of the CRT, as patients will know that they are working with people in a similar position to them and the Triage Nurse takes ‘some of heat’ from the CRT.
The following tables provide an example of the volume of alerts addressed by the Triage Nurses in 2015-16 for COPD patients on TeleHealth within the South Eastern HSC Trust.

<table>
<thead>
<tr>
<th>Category of Alerts</th>
<th>Escalations to</th>
<th>Total number of patients receiving monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Significantly Outside</td>
<td>Marginaly Outside</td>
<td>Incomplete Monitoring Data</td>
</tr>
<tr>
<td>2015</td>
<td>3759</td>
<td>10740</td>
</tr>
<tr>
<td>Q2</td>
<td>1284</td>
<td>3706</td>
</tr>
<tr>
<td>April</td>
<td>418</td>
<td>1328</td>
</tr>
<tr>
<td>May</td>
<td>458</td>
<td>1279</td>
</tr>
<tr>
<td>June</td>
<td>408</td>
<td>1099</td>
</tr>
<tr>
<td>Q3</td>
<td>1160</td>
<td>3365</td>
</tr>
<tr>
<td>July</td>
<td>396</td>
<td>1082</td>
</tr>
<tr>
<td>August</td>
<td>359</td>
<td>1170</td>
</tr>
<tr>
<td>September</td>
<td>405</td>
<td>1113</td>
</tr>
<tr>
<td>Q4</td>
<td>1315</td>
<td>3669</td>
</tr>
<tr>
<td>October</td>
<td>457</td>
<td>1135</td>
</tr>
<tr>
<td>November</td>
<td>472</td>
<td>1193</td>
</tr>
<tr>
<td>December</td>
<td>386</td>
<td>1341</td>
</tr>
<tr>
<td>2016</td>
<td>1132</td>
<td>349</td>
</tr>
<tr>
<td>Q1</td>
<td>1132</td>
<td>3491</td>
</tr>
<tr>
<td>January</td>
<td>364</td>
<td>1182</td>
</tr>
<tr>
<td>February</td>
<td>393</td>
<td>1161</td>
</tr>
<tr>
<td>March</td>
<td>375</td>
<td>1148</td>
</tr>
<tr>
<td>Grand Total</td>
<td>4891</td>
<td>14231</td>
</tr>
</tbody>
</table>

Notes: In the 2015-16 year, Telemonitoring NI responded to a total of 24338 alerts. These are a mix of significant, marginal, incomplete or missed – all of which are addressed by the triage team. In total, out of these 24338 alerts, the Triage Nurses made 974 escalations to the local response team (i.e. the TKW) and 97 were escalated to GP Out-of-Hours (weekends and bank holidays). This relates to 218 patients with COPD out of a total of 440 SET monitored patients.

<table>
<thead>
<tr>
<th>Emergency Escalations by Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Team</td>
</tr>
<tr>
<td>SET Ards COPD Team</td>
</tr>
<tr>
<td>SET Down COPD Team</td>
</tr>
<tr>
<td>SET Lisburn COPD Team</td>
</tr>
<tr>
<td>SET North Down &amp; Ards COPD Team</td>
</tr>
<tr>
<td>SET North Down COPD Team</td>
</tr>
<tr>
<td>SET Ulster COPD Team</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Notes: In the same 12 month period, a total of 9 patients required a 999 emergency escalation.
Clearly, the timely transfer of clinical data identifies those patients who potentially are getting into difficulty when their vital signs sit outside the agreed parameters. This can be significant as COPD patients can show signs of deterioration 3-5 days before an exacerbation. Ideally, this gives the service an opportunity to intervene to address symptoms, take action, prevent a hospital admission and/or reduce the length of hospital stay. This is where the triage nursing component of the service comes into its own and supports the clinical staff on the ground.

Part of the ethos of TeleHealth is about empowering the patient to understand their condition and respond accordingly to changes in their vital signs. If as a health service we wish to empower patients to take more responsibility for their own health, then we need to support them and make sure that they understand their readings. By providing COPD patients with the triage option of TeleHealth the patient has to monitor and get feedback regularly otherwise one generates more demand for the specialist’s time rather than reducing it. Hence, the CRT has not considered ‘track and trend’ approach. As one nurse said… “I would spend my time on the phone chasing alerts rather than seeing the patients that I know that I need to see.”
4.0 Discussions and Challenges

Despite some mixed opinions existing within the academic world, there is a maturing clinical evidence base coupled with increased awareness of improving technology which is leading to an increase in TeleHealth adoption over the past few years.

Although the number of TeleHealth deployments across the UK is rising (Nuffield Trust, 2016), there remains uncertainty regarding the most effective model of delivery. This is an important consideration when the implementation of TeleHealth represents a substantial investment of resources and is one reason why success is of great interest.

Within the South Eastern Trust, five different services across the Trust are using TeleHealth to support their patients – each is approaching its utilisation differently with varying degrees of success. The Community Respiratory Team is the largest user of the service and the utilisation of the technology has altered the way the CRT delivers their services.

As with change or the introduction of something new, there have been barriers that have had to be addressed and factors that have promoted positive outcomes along the CRTs TeleHealth journey.

1. At the beginning, the technology and ICT infrastructure took a little time for staff to get familiar with i.e. the referral process; accessing and reviewing patient information via the ICP gateway; setting patient parameters; the practicalities around getting the equipment into the patient’s homes and the training for patients to use the equipment. On-line referrals were a bit time consuming at the outset but staff became more proficient in completing these as they referred more patients.

2. Across all of the services, one of the biggest barriers has been the attitudes of some professionals towards the adoption of technology and their readiness to embrace changes into their practice. In fairness, some of this was probably due to the fact that not all staff/services, were involved in the pre-contractual engagement and were probably disadvantaged in not having the opportunity to consider why TeleHealth was being offered and for whom and the impact that it would have in practice for staff, and the impact on their work.

3. As highlighted previously, there were staff who referred a few patients and made negative judgements on an embryonic service. For some, the electronic referral dulled their enthusiasm. For others, they persevered in getting familiar with the service and ‘got involved’ to shape the development of the service. There was a motivation and a willingness to build relationships and networks to influence the service, build alliances, and make the service work for them whilst challenging some of misconceptions that existed.

4. As with any new ways of working - staff need to feel confident about working differently whilst responding to patients in a timely and effective manner. The technology and the service has to be acceptable and reliable to both professionals and patients. It would have been easy for staff to perceive TeleHealth as another activity or an add-on into the daily workload. Our experience of having a regional managed service has demonstrated that the bulk of technical and service management issues were addressed centrally and when alerts were escalated by the Triage Nurses, these were appropriate. To reach this position it has taken time to
build up experience and a reliance on good working relationships between patients, carers, professionals, commissioners and Fold.

5. TeleHealth has been integrated into the CRT where it has adopted a number of roles in supporting our patients. It has been a vehicle to provide education (to improve self-management), provide timely information transfer between the patient and clinical staff (e.g. TeleHealth) and provide contact with health professionals (e.g. telephone support and follow-up).

6. The experience of the Community Respiratory Team would suggest that TeleHealth is not necessarily for everyone but it should be offered or at least considered for those who wish to get a better control on their condition. The team took some time to get a working referral criterion for TeleHealth which has resulted in a more flexible approach.

7. The team has worked with Fold to keep the processes as simple as possible, tailoring the service to the needs of the patient (and the keyworker) plus using the TeleHealth service to enhance human contact. Using technology to engage with patients is no more or no less valuable than face-to-face – it’s just different. The technology and the Triage Nurses connect patients to family, friends and care professionals so they and their carers feel safe, secure and empowered.

8. TeleHealth sits neatly within the ethos of the Transforming Your Care programme aiming to support people to live as independently and healthily as possible, for as long as possible and making it easier for people to access health and social care should they need it.

9. It can strengthen the relationship between the patient and the professional (QNI, 2012) and Triage Nurse whilst positively supporting the staff on the ground delivering the service.
5.0 Conclusions

As a Community Respiratory Team, the journey continues and we continue to reflect, revisit and re-consider how to continue to embrace technology within our practice. There are probably two challenges that as a service provider and other services need to reflect on.

Firstly, from the patient perspective, although it is easy for NHS to think about managing long term conditions, what the community respiratory service is providing via TeleHealth has to be broader than just condition management. People do not define themselves by their condition and are focused on living their lives. In assessing the value of TeleHealth, we need to consider what is being measured as successful outcomes which are equally as valuable as avoided emergency department attendances or hospital admissions – for example, maintaining independence and social interaction.

This is something that National Voices (2013) identified when working with the older population in defining a set of narrative ‘I’ statements describing the way that older people want high quality coordinated care to support them. These focus on independence, decision making, community interactions and care and support and can easily be considered for all adults regardless of age. (See page 2).

In reviewing our TeleHealth with triage service, we need to consider the following:

- Are we helping people to maintain independence?
- Are we enabling older people to build and maintain relationships with their professionals and practitioners?
- How to reach out to people in ways which are not solely dominated by ‘health management’ considerations?
- How to work with family and informal carers and supporters?

The Nuffield Trust research paper (Imison C et al, 2016) builds on the National Voices ‘I’ statements by providing examples of how technology can drive improvements to productivity and quality of care particularly for those who use services. Nuffield propose seven opportunities to drive improvements when combining technology with care. As a Community Respiratory Service or for any service utilising technology - what would this look like for the staff and the patient?

1. More systematic, high-quality care. My care is consistently delivered to a high standard.
2. More proactive and targeted care. The system finds me and intervenes at an early stage to avoid a crisis.
3. Better-coordinated care. The professionals involved with my care communicate with each other, working as a team and bringing together services to support me.
4. Improved access to specialist expertise. I, and those that support me, can access the specialist advice I need, wherever and whenever I need it.
5. Greater patient engagement. I have the information, and support to use it, that I need to manage my condition and make choices about my care.
6. Improved resource management. Whenever I use a service there are no unnecessary delays or wasted visits.
7. System improvement and learning. I know that the services that support me are always trying to find ways to improve my experience and the outcomes that are important to me.
The second challenge is directed to all healthcare professionals and it comes from the Queen’s Nursing Institute (2012) who suggests that “technology is transforming the way that care is delivered, as well as the relationship between the patient and the professional.” They go on to say that “It doesn’t replace the nurse, or the need for a high level of both clinical skills and interpersonal skills in community nurses. Technology only works for patients when it is combined with expert, relationship-based care.”

In reviewing the TeleHealth journey of the Community Respiratory Team it has been one of partnership working, of learning, of critical conversations and discussions, leading to new ways of working and a journey of new relationships with patients and others. We have addressed a number of the challenges put forward by the Queen’s Nursing Institute – we would encourage other services to do likewise.
6.0 Recommendations

1. There is a need to increase the awareness amongst Trust staff of the benefits of telemonitoring in supporting the management of their patients on caseloads and to enable patient’s to live more independently.

2. Promote the patient perspective where it is demonstrable that telemonitoring and nurse triage has helped with self-management or prevented an exacerbation.

3. Review service provision using the National Voices ‘I’ statements and the seven opportunities to drive improvements as suggested by the Nuffield Trust to ensure person-centred orientated care. We need to consider how we reach out to people in ways which are not solely dominated by ‘health management’ considerations.

4. Build TeleHealth into both management meetings and clinical supervision – not just in terms of reviewing performance but as a tool to support service innovation, support learning and review outcomes.

5. Adopt a partnership and flexible approach to service delivery within teams - to test, experiment, motivate and engage with patients and staff when considering the technologies to support self-care.

6. Have dedicated TSMs with a clinical background (if possible) whose sole responsibility is to manage TeleHealth implementation but who also facilitate forums for clinical supervision, discussion and learning across the Trust.

7. Tele-nursing/triage nursing is nursing in another form with a skill and knowledge set that adds value to helping patients with independence, community interactions, decision making in addition to care and support. There are opportunities for Trust teams to develop their relationships with the telemonitoring/Triage Nurses:
   - Promote staff/key worker engagement visits to the monitoring centre to meet the staff.
   - One day student nurse placements to illustrate to future nurses the role of Tele-nursing.

8. Telemonitoring needs to move away from being a new technology to a core component of service delivery with an opportunity to open it to other conditions.

9. Engagement from commissioners, service planners and those with a strategic remit to consider TeleHealth as a long term investment connecting health and social care to support independence whilst strengthening the relationship between the professional and the service user.

10. Consider the challenges (adapted from the Queen’s Nursing Institute 2012) below:
**Personal challenges for community staff:**

Could e-health improve your practice, giving better experience and outcomes for patients - do you know enough about it to tell?

Do you have the confidence to help your patients/clients exploit information and technology?

Are you prepared to learn and sustain new ways of working?

What could you do as part of your personal development to improve your knowledge, confidence or skills in this area?

**Challenges for organisations providing community services:**

Are your services making best use of technology and new ways of working?

Are your systems integrated and robust enough to support technology in practice?

How will you ensure that staff are confident, knowledgeable and skilled enough to use technology in practice to improve outcomes and give patients a better experience?

Have you looked at successful examples elsewhere to judge how your services could adopt them?
### 7.0 Appendices

#### Appendix 1

**Adaptation of Donabedian’s Quality of Care Model For Telemonitoring and SET CRT**

<table>
<thead>
<tr>
<th>Structure (Resources)</th>
<th>Process (Activities)</th>
<th>Outcome (Results)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organisational</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telemonitoring NI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Regional service management and delivery.</td>
<td>• Effectiveness of telemonitoring compared to face-to-face</td>
<td>• Utilisation of resources</td>
</tr>
<tr>
<td>• Central procurement and funding</td>
<td>• Better management of care processes and care-management decisions (provider and patient)</td>
<td>• Cost effectiveness</td>
</tr>
<tr>
<td>SET</td>
<td></td>
<td>Patient and Triage Nurse and TKW</td>
</tr>
<tr>
<td>• Additional funded resource</td>
<td>• Receiver actionable clinical information and provide focused interventions</td>
<td>• Regional developments</td>
</tr>
<tr>
<td>• Use of existing Trust ICT infrastructure</td>
<td>• Improved decision making processes – patient – CRT</td>
<td>• Targets/SLAs/Challenges to Trusts</td>
</tr>
<tr>
<td>• SET has an ICT development culture</td>
<td>• Regular reporting of data.</td>
<td>SET</td>
</tr>
<tr>
<td><strong>Individual</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CRT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Local CRT services and context</td>
<td>• Timely feedback and intervention</td>
<td>• Efficient use of resources</td>
</tr>
<tr>
<td>• 7-step patient pathway</td>
<td>• Real time information on patient platform and care dashboards – information sharing.</td>
<td>• Triage Nurses external to the Trust – supporting the Trust service. An additional resource and a new way of developing nurses/nursing</td>
</tr>
<tr>
<td>• Integrating telemonitoring into workload</td>
<td></td>
<td>• Stay more connected to patients at home without added burden</td>
</tr>
<tr>
<td>• Patient platform and care dashboard</td>
<td>• Satisfaction with care delivery/service (QUB Study, Patient Client Council)</td>
<td></td>
</tr>
<tr>
<td>• Service champions/staff</td>
<td></td>
<td><strong>Individual</strong></td>
</tr>
<tr>
<td>• Planning and reviewing</td>
<td></td>
<td>CRT</td>
</tr>
<tr>
<td>• Training in equipment and using the system</td>
<td></td>
<td>• Having a ‘virtual’ team monitoring a group of ‘at risk’ patients – whilst the time concentrate on the ‘higher priority’ patients</td>
</tr>
<tr>
<td><strong>Patient</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Accessibility to support and early warning indicators.</td>
<td>• Better management of teams and workload</td>
<td></td>
</tr>
<tr>
<td>• Easy to use equipment/ICT</td>
<td>• Re-assurance, feeling well supported</td>
<td><strong>Patient</strong></td>
</tr>
<tr>
<td></td>
<td>• Understanding of how their condition affects them</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Better channels of communication with professionals</td>
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</tr>
</tbody>
</table>
Appendix 2
SET – User Satisfaction Survey May 2014

“Being on my own I feel so much safer.”
“I am pleased with your service and I have had peace of mind since it has been installed. The nurses are so helpful and caring and let me know when I need help.”
“I am very satisfied with this system it gives me peace of mind and I’ve had great support from nurses, quick response on several occasions and advice and treatment used to prevent further problems. I feel it is an excellent service. It makes me feel more independent and comfortable knowing someone is always available when I’m in need.”
“The system gives a feeling of security. All the Triage Nurses are all pleasant and professional when they call.”
“I find it reassuring to know that if my readings are down the Telemonitoring will be alerted to the fact and take action.”
“It is really reassuring to have the nurses on the other end of the phone if needed.”
“The Telemonitoring Service has given me more confidence in managing my breathing problems because I know my oxygen levels each day.”
“This service gives me great reassurance knowing there is someone who can contact the Respiratory Nurse or doctor for me and get through much quicker that I could do when I’m ill and need help. I get treatment as soon as it is needed. No waiting for hours on a doctor.”
“The Triage Nurses are very professional, pleasant and understanding and would act quickly if needed.”

Patient and Carer Feedback - Patient and Client Council (2014) - Views on Telemonitoring Service

“It really has given us peace of mind.”
“It gives me knowledge of my own condition and lets me know what to keep my eye on … It also makes me feel more involved.”
“It definitely gives you a bit of confidence.”
“Always in touch with someone who knows what they are talking about and that someone has my records from every day… It also gives me peace of mind.”
“In short I couldn’t speak highly enough of it. We can find no fault in it… no trouble at all to use. I would say it’s excellent and we are not just saying that… I couldn’t speak highly enough of it and their kindness and that’s not just empty words.”
“It’s idiot proof. I use the machine at 7am so it doesn’t affect my day. It only takes 10 minutes. I like using it when it suits me. There was a choice and I got a time that suits me. They work around us very well.”
“Their service is 100%. If anything is wrong they’ll be on the phone to me by 9 o’clock. If something happens in my readings, triage will phone me and if it’s bad they will send a nurse to come out the same day. It’s very good as it would take a lot longer to see a doctor and a problem is dealt with there and then.”
“It has really helped me understand my own condition. I was given a sheet of paper to record what the results were….so that if there is any trouble with the information being sent they can ring up and all the information is recorded on paper. Also, it’s very good when going to see a new doctor to show all your results for the last load of months….All the family think it is very useful and ask me about my readings. It’s reassuring to them.”
“Over the last two years it has worked very well for me and I’ve only been in hospital once over that period of time, so I would be a big fan of it (telemonitoring). At least I can lead somewhat of a normal life. Before, I could guarantee that by the eighth week I was back in hospital again, and I was usually in for a six to eight week stay.”

“I would say so (had fewer visits to GP). I would have probably gone in a bit more often (before telemonitoring) as I was concerned about the pains I was having. I would say like I was being watched and it was alright then or they would come back to me.”

“This (telemonitoring) is ideal for me because it means somebody’s there to say ‘no, stop, address this now’ rather than what I would have been doing which was ploughing on and keeping on the go.”

“It gave me peace of mind to have it in the house.”

“It’s like a security blanket.”

“They (family) were all glad that I was doing it and they were glad that I was being more careful with myself for my own sake.”

“The nurses will ring back and say ‘You’re not too good today. Do you want me to ring your doctor or do you want to go out of hours? Have you got the number?’ You know, they are always very friendly and very supportive. And they ring you back, you know, within about half an hour of the readings.”

“What I love about it is I mean when I do all my checks every morning … if my blood pressure was down. They were on the ball and they always ring me if something is not right. I wouldn’t be without it, they’re all lovely (Triage Nurses), I’ve never met them but I recognise their voices, lovely team you know.”

“You feel in control, not somebody else. You feel in control of your own health and what’s going on. It gives you a certain amount of independence, and responsibility that you’re not relying on somebody else all the time.”

“I can read my SP02 from my finger and I can take my blood pressure, I can weigh myself and take my temperature, but that’s the mechanical part of it, that’s using the machinery if you like, but it doesn’t tell me a lot personally, maybe it tells whoever’s monitoring it at the other end.”

“In our particular case, we’re not experts in what’s wrong with us but it’s an understanding of what happens if and what happens if not, and you can take appropriate action.”

“I’ve got into a routine now so I’m happy to stick with the same time every day. I get up at seven o’clock on a routine day but it’s awkward when you’re on business trips and you’re away. It knocks the whole thing off. I just simply phone and say ‘I won’t be monitoring for the next couple of days’. It just takes the whole strain and stress off that.”

“I put it (readings) into the wee machine and it goes off (to the Triage Nurses). I used to have to write it all down in books. So it saves a lot of work, for me and the nurse.”

“Just thought it was great. It saves you any bother having to run in (to the clinic) to see her (the specialist nurse), she could check (readings via telemonitoring).”
“It saves you going down to (hospital)… that saves you a lot of time, it saves her (wife) a lot of time and it saves the health service a lot of time.”

“It’s like having your own personal nurse, because if something is not right they will come back to you … if they’re not happy they will send somebody out to him.”

“You’re catching it on much quicker than if he was just sitting there and I would see him having difficulty breathing … it maybe stops him from having to be taken into hospital.”

“As far as the respiratory nurses and that are concerned, it saves them the journey to have to come out and do my dad’s stats when they are being done through the monitor.”
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