Wound Healing Project in North East Lincolnshire

Evaluation Report

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Acknowledgements

We are extremely grateful to all those who have supported this project, particularly to the staff within Yarborough Clee Care, who have committed a significant amount of nursing and administration time to the preparations and implementation. We hope that in time the considerable benefits already seen by patients and health professionals can be experienced by all patients suffering with chronic wounds in NEL, enabling access to the best possible wound care expertise and treatment.

We would also like to thank staff at Healogics for their clinical expertise, advice and support and Longhand Data Inc. for providing the technology, training and ongoing technical support.

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Overview

Chronic wounds affect millions of people around the world: a figure that is expected to increase with the rise in patients with diabetes, obesity and an ageing population. The most common chronic wounds in the UK — pressure ulcers, diabetic foot ulcers, and venous leg ulcers.

In 2013 a study[1] was conducted to estimate the health outcomes, resource implications and associated costs attributable to managing wounds. After adjustment for comorbidities, the annual NHS cost of managing wounds was estimated to be £4.5 - 5.1 billion, two-thirds of which is incurred in the community and the rest in secondary care.

Over the last few years there has been a growing recognition that wound care in our local health and social care economy has been hampered by a range of issues that have led to less than optimal care.

Patients have experienced delays in wound healing and lack of continuity in care between care homes, primary care, community services and hospital care. This has generated a trend in Serious Untoward Incidents linked to tissue viability and a subsequent focus for commissioners and providers to work together to improve services and tackle the problem.

As a result, work commenced late in 2012 to explore possibilities for improvements in tissue viability care within the context of the global recession and subsequent financial restraints placed on public spending in health and social care.

From an evaluation undertaken in 2010 the cost of wound care in N E Lincolnshire was around £3.2 million per year, as well as the additional unknown cost of chronic oedema/lymphedema.

Of the £3.2 million:-

£1.14 million per annum was allocated to pressure ulcer treatment
£1.1 million per annum was allocated to leg ulcer treatment

Around £800,000 is spent on dressings each year. This has reduced over the past few years owing to more competitive pricing and an overall reduction in costs of dressings.

Background to the Project

In 2013, following a series of reports and audits highlighting the national problems around wound care management, Bradford Teaching Hospitals conducted a study to trial a remote wound care triage system using telemedicine, to improve patient wound care in nursing homes and to 'evaluate the effectiveness of a telehealth system'.[2] The findings of this pilot demonstrated that 'the system provided improved patient outcomes and [could] offer cost savings by improving dressing product selection, decreasing inappropriate onward referral and speeding healing.

To explore this concept further, in August 2013 North East Lincolnshire Clinical Commissioning Group (NEL CCG) proposed a similar project to its partners in primary and secondary care, responsible for the delivery of skin integrity services in NEL, namely Yarborough Clee Care, Care Plus Group (CPG) and Northern Lincolnshire and Goole Hospitals (NLaG). The aim of this project was to develop a revised care pathway for a specified cohort of patients in NEL, residing at home or in care, who suffer with acute or chronic with differing levels of severity. The project would rely on a remote triage service provided by Healogics Inc., facilitated by a web based patient system, TELERWoundcare.

This report summarises the process, key outcomes and leaning from the project along with open comments and evaluations provided from the stakeholders and patients involved in the project. A range of cases studies have been included to illustrate some of the successes the project has achieved, since it commenced in January 2015.

Stakeholders

NEL Care Plus Group (CPG)

Care Plus Group is commissioned by NEL CCG to deliver a range health and social care services, including skin integrity services, to adults living within the boundaries of NEL. The team employ a number of Tissue Viability Nurses to provide a specialist service relating to the maintenance and promotion of skin health. This includes providing clinical advice, education and support to all health and social care professionals and care providers including care homes, who have been unable to heal complex wounds, or require advice on controlling the symptoms of chronic non healing wound.

NEL Clinical Commissioning Group

NEL CCG is responsible for commissioning health and adult social care services for over 165,000 people in North East Lincolnshire. Doctors, nurses and health professionals from 30 GP member practices work with a forum of volunteers from the local community to ensure the people of NEL receive high-quality, cost effective care.

The role of the CCG is to invest in services that are right for local people and through its procurement process; it is committed to ensuring fair opportunity, competition and value for money.

Eastbourne Wound Healing Centre EWHC

EWHC is part of the Healogics group and provides a broad range of services for patients with chronic wounds, receiving referrals from primary and secondary care. The team includes specialist nurses in Tissue Viability and Lymphedema, an occupational therapist with expertise in the prevention and management of pressure, and a podiatrist, who maintains foot health and prevents foot ulcers.

Conditions treated include leg ulcers, pressure sores, surgical wounds, burns, cancerous wounds, gangrene, pilonidal sinus and distressing skin conditions.

Healogics Inc.

Healogics have over 800 wound healing centres in the US and have expanded into the UK market with a number of centres across the country. They provide care to patients with challenging wounds to the lower limbs by providing expertise, experience and resources in clinics and centres close to home. Healogics has an established reputation for ensuring that patients with chronic wounds receive quality evidence-based care.

Longhand Data Limited

Longhand Data has been deploying projects using mobile methods of data capture since 2004. This has helped them develop a deep understanding of automated data capture and how this can be applied to simple or complex business processes. Since 2007 the company has concentrated on the health care sector which led to the acquisition of the TELER IP, a methodology for measuring and monitoring the treatment and care a patient receives.

Working with Kings College London, the TELER measurement system has become a significant research tool and was an integral part of their award winning WEB project. Alongside its use in research and PhD's, Longhand has developed TELER as a web application and is currently used by physiotherapists and wound care specialists outside of the NHS.

Northern Lincolnshire & Goole, NHS Foundation Trust (NLaG)

NLaG provides acute hospital services and community services to a population of more than 350,000 people across North and North East Lincolnshire and East Riding of Yorkshire.

The tissue viability/chronic wound service within NLaG is nurse led, providing specialist assessment, treatment and advice to patients with skin integrity concerns and for those who have chronic wounds, that are over six weeks old and remain non healing or unresponsive to current treatment.

A specialist nurse takes the lead for patients who require topical negative pressure in the community, as well as providing all the necessary training and education about wound management for community based staff, social services staff, care home staff and practice nurses.

Roxton Primary Care Centre

The Roxton Practice provides primary care services to the population of Immingham, and surrounding villages in North & North East Lincolnshire. The practice operates from two surgeries, Immingham and Keelby offering a wide range of medical services to the local population. Practice nurses and healthcare assistants provide a range of healthcare services including wound care treatments and clinics.

Yarborough Clee Care

Yarborough Clee Care Ltd. (YCC) provides community nursing services and is a limited liability company run by six GP practices that form Yarborough Clee Commissioning Group, covering 38,996 patients in the Grimsby, Cleethorpes and adjourning area. There are approximately 28 nurses, 3 Assistant Practitioners and 9 healthcare assistants employed in the team across the 6 practices. The nursing teams are split across 3 sites.

Ashlea Court Care Home

Ashlea Court care home based in Waltham, is 1 of over 45 registered care homes in NEL. The home is commissioned through private and CCG funded referral and provides accommodation for up to 48 people, who require nursing and personal care, including regular treatment for wounds and pressure sores. This home expressed interest in becoming involved in the wound care project in early 2013.

Initial Workshop – Project Proposal

In September 2013, an initial workshop was held, bringing together all stakeholders (**See Appendix A**). Discussions focussed on exiting wound services across NEL, what was working well and the main barriers to practice, how local services interact, workforce skill mix and gaps in the system. This led to a number of ideas and solutions being put forward to address some of the challenges, improve interagency working and operational processes given the economic climate and limited financial resources.

It was widely acknowledged that wound management is an issue in all health care settings and there was consensus on a number of factors that impacted on the delivery of local wound care services including:-

- Shortage of nursing time to undertake the job effectively
- Nursing teams under resourced (human)
- Limited nursing time available for training and development
- Poor transfer of information between service environments in relation to wound care i.e. primary, community and secondary care
- Cost wastage of dressings and inappropriate usage of treatments and dressings
- Sub-optimal healing times at 16+ weeks.

Workshop Conclusions

This event reflected a high level of commitment and engagement in relation to overcoming local barriers to improvements in tissue viability outcomes and resulted in stronger connections between local practitioners and a willingness to work collaboratively to develop new pathways of care, which would generate faster healing rates and improve quality of life for those struggling with wounds.

The conclusion was that change needed to happen if wound services were to improve in NEL, and though this would require extra time and commitment with changes to existing practice, local providers could see the benefits a remote triage service could bring. There was unanimous support and enthusiasm for the adoption of a wound care project in NEL and YCC agreed to become the first rollout site, seeing this as both as an educational and developmental opportunity for the community nursing teams. Other providers present, Care Plus Group and NLaG agreed to roll out, subject to organisational agreement, later on in the year.

The next step was to develop an action plan taking the project to the next phase:-

Action Plan

- Produce a business case to the CCG seeking approval/funding to implement the project
- Produce a redefined referral Skin Integrity Pathway incorporating the usage of TELER and triage by Healogics
- Agree the Patient Referral Criteria
- Produce a web based Skin Integrity Referral Form based on the existing referral form
- Time implementation to coincide with district nursing mobile working project
- Update the NEL Formulary monitor dressing/medication usage
- Provide TELER training for nurses and administrators
- Enter all eligible patients to the TELERWoundcare system
- Consult with Information Governance on security for TELER and patient consent
- Agree a Go Live date to implement the within YCC January 2015

Aims of the Project

- To generate better outcomes for patients whilst making better uses of current resources and treatments in delivering skin integrity services
- To improve wound healing rates and improve the quality of life for patients suffering with wounds in NEL
- To address delays in accessing specialist tissue viability advice
- To increase levels and transfer of knowledge in relation to tissue vitality techniques for community nursing staff
- To improve transfer of information between service environments in relation to wound care
- Enabling specialist Tissue Viability Nurses to direct their time and attention to those most in need
- Support consistency of care planning through optimised access to data

Background to Eastbourne Wound Healing Centre (EWHC)

The EWHC has a high success rate in dealing with persistent wounds. As well as receiving private referrals, the clinic is commissioned by their local CCG to provide treatments and care for patients with chronic wounds.

Representatives from the clinic attended workshop to share some case examples and described how, through the use of telemedicine and remote clinical triage, they had achieved significant reductions in wound healing times for patients who had suffered with wounds for several years and for some, decades.

Of chronic wounds with an average duration of 3.3 years, the clinic have proven experience of healing 95% of new referrals in 100 days, resulting in excellent outcomes for the patient and substantial financial savings in treatment and nursing

time. As the results were so effective the local PCT/CCG commissioned the clinic to extend to a 26 GP surgery consortium (from 4 GP Surgeries). The clinic has continued to achieve significant outcomes for the local population.

Average Cost Saving Example

The average duration of a wound referred to the clinic is around 3.3 years at a cost of £18,000 per patient. (£24 per dressing change 3 x week x 3.3 years = £12.355 without nursing care)

Of the 83% healed the average cost to the PCT was £720 per patient.

The other wounds that were in a healing state, went back to their NHS nurse with a plan of care.

EWHC Case Study – An ex-veteran

During WW2 an ex-serviceman suffered a bullet wound and had since been receiving treatment for over 69 years. The wound had gone through a cycle of healing and decline occasionally showing some signs of improvement, but still remained unhealed. After a referral to EWHC and subsequent management through remote triage and treatment provided by the clinic, the wound went on to heal within 12 weeks.

Background to Healogics

Using a network of specially trained clinicians, Healogics has created a uniform approach to wound assessment and healing. Of all patients who complete their care plans:

- Approximately 90% are discharged with their wound(s) healed
- The average time to healing is 95% in 100 days
- Patient satisfaction scores are typically between 95 - 100%

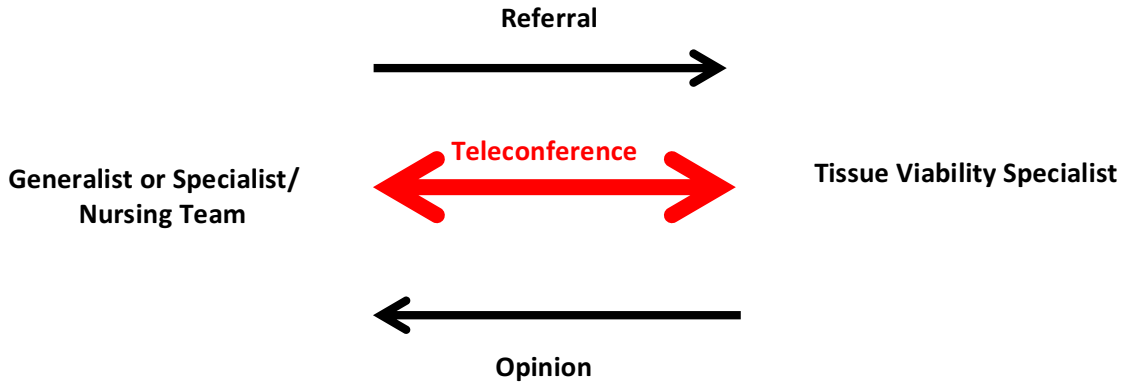
With experience of the above issues articulated by NEL nurses, Healogics described how a remote triage service could work alongside local nursing teams, care homes and wound care services to provide responsive clinical expertise and treatment plans thus reducing delays in treatment and deterioration of the wound.
From point of referral, care plans are produced for patients with the most complex, chronic wounds, and specialist wound care therapies are prescribed to promote wound closure, new tissue growth and wound tissue regeneration.

Some of the benefits of this would be:-

- Reduced healing times for identified wounds
- Reduced the travel time for community nursing staff related to wound management
- Optimal usage of appropriate dressings and treatments for identified wounds
- Nursing staff increasing skills and knowledge by having access to the highest level of wound care specialist advice and available treatments

The referral process in its simplest form is outlined in **Diagram 1**. From receipt of a referral from a Nurse/GP/DN, a call will be held between Healogics and the referrer to obtain further information about the patient. A Treatment Plan is then provided with an agreed review date. Regular communication/consultation takes place between Healogics and the nursing team, until the wound has healed.

Diagram 1



Background to Longhand Data Ltd.

A central requirement joined-up care between agencies, depends on common data, seen by all: meaning the same patient data is available to all clinicians, wherever they are in the care pathway and, importantly, wherever the patient is in the pathway. Historically, nursing teams have had to develop their own record keeping systems to record assessment, treatments and patient outcomes and reporting has been difficult and limited.

TELERWoundcare was developed specifically to provide linked, personalised data on the care of patients moving in a care pathway between and secondary care, and provides the tools and technical support that were required for this project. As a patient note and monitoring application it has capabilities to record and report on wound healing times and patient measured outcomes. Something that has been difficult to capture in NEL.

Case note data and digital images are uploaded to the system via an internet connected pc, laptop or tablet device. The system can record multiple wounds, so that each wound has its own treatment plan (e.g. if a patient has multiple wounds),

and comprises of quality indicators, wound formularies, empirical measurements and notes.

The system also has capability to import/export images, reports and notes to patient systems such as SystmOne and EMIS to avoid duplication in recording.

TELER Indicators

TELERWoundcare has the built in ability to monitor patients' treatment and recovery using a library of patient measured outcomes called TELER indicators. The system is equipped with over 80 wound care indicators that can be selected by Healogics or other clinicians, that are relevant to the patient, and use these to determine whether patients are improving, deteriorating or unchanged.

In NEL the following indicators have been identified as key patient outcomes, which will be effective from 1 April 2016 within all teams using the TELER system.

- Quality of sleep
- Impact on socialising with others
- Impact on daily activities
- Impact on general wellbeing

Patient Inclusion Criteria

Wound inclusion and exclusion criteria were developed and agreed by YCC, CPG and Healogics, clearly defining the type of wound/s that YCC would refer to the Healogics Team. Initially YCC identified approximately 40 patients meeting the criteria, who subject to patient consent, would be entered onto TELER and referred to Healogics. Patients with wounds not meeting the inclusion criteria continued with their existing care plan.

Wound Inclusion Criteria

- Adults over 18 years of age registered with Yarborough /Clee Community Nursing Service

- All current and new patients with wounds of longer than 4 weeks duration.

Wound Exclusion Criteria

- Wounds of less than 4 weeks duration
- Wounds managed by acute services:- (Diabetes, Vascular, Dermatology, Rheumatology, Plastics, Burns)

- Malignant wounds not expected to heal requiring symptom control – (*may be introduced at a later date in the project*)
- Patients refuse referral
- Patients refuse to share personal information on records
- Surgical Site Infected wounds SSI (NICE, 2001 – Clinical Guideline 74)
- Infected wounds that have not previously been referred
- Topical Negative Pressure (TNP) therapy
- Oedema/ leaky legs

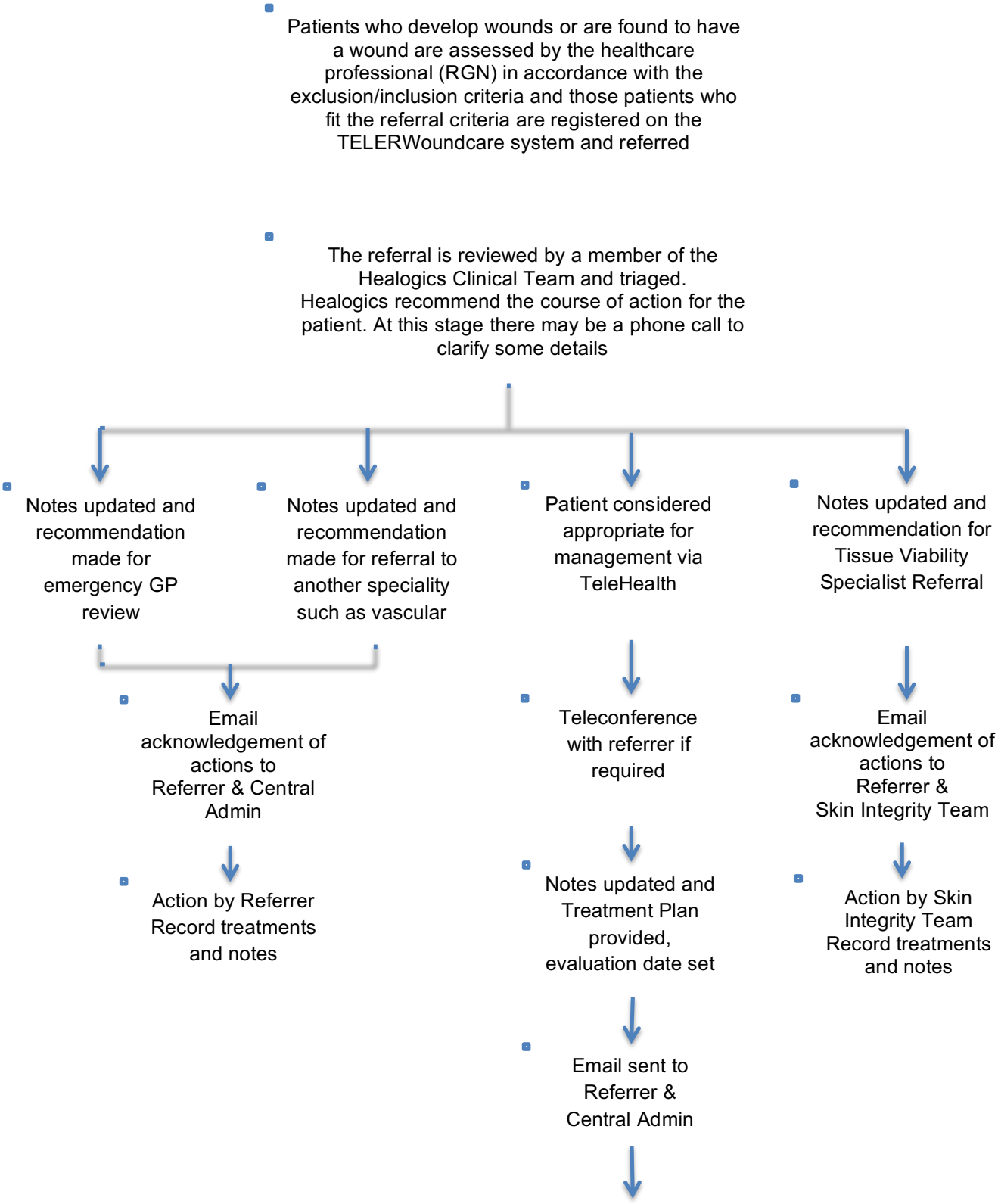
Referral Pathway

A joint referral pathway was developed for use in conjunction with the Patient Inclusion Criteria, this is followed by YCC and Roxton nursing teams and Healogics. The flow chart below provides an overview of the Patient Telehealth Pathway from the point a practitioner discovers, or is alerted to a new wound/pressure sore.

Once the wound has been recorded on the patients' notes on EMIS or SystmOne, the nurse will liaise with the a Link Nurse to determine whether the wound meets the inclusion criteria for referral to Healogics; if it does, the process outlined on the pathway below will be followed, if not, the wound continues to be treated according to standard YCC/Roxton practice.

Details of the wound are then entered onto the TELER system and will be reviewed within one working day by Healogics. A follow up telephone call will be made by the reviewer to the referring nurse, during this call the treatment or referral options will be discussed and a plan agreed, the plan can be exported from TELER for inclusion on the patient notes and the referring nurse with then commence the Treatment Plan.

Patient TeleHealth Pathway



Implementation

Technical Solutions to Support the Pathway

The Skin Integrity Referral form was adapted into a digital version for the iPad to be accessed via NaturalForms from the Apple App Store (See **Appendix B**). This app works with TELER and provides the gateway to the referral form. Data requirements for each form field was determined and additional information around wound types, treatments etc. were added as drop down cells to make the form user friendly and reduce form filling time.

Lesson Learnt

iPad Procurement, configuration and general technical requirements caused unforeseen delays and needed to be given more lead time.

The NEL Approved Formulary was imported into the TELER system and also added to the Referral Form to allow the nurse to select treatments the patient had previously received, and for Healogics to view the treatments and dressings available to prescribe. This also ensured that data on the form exactly matched the formulary within TELER and removed any room for error. Any items prescribed by Healogics outside of the formulary would need prior agreement via the patient's GP and the CCG.

Running concurrently with this project was the YCC mobile working project, to equip YCC nursing staff with iPads enabling access to patient notes, whilst on home visits. Each iPads required a license to enable access to EMISWeb and to allow for compatibility with TELER. User accounts were set up for each user and the NaturalForms app was installed providing access to the referral form. The project was timed to commence shortly after the deployment of the iPads to enable the nurses to become comfortable with the iPads, prior to trialling the new electronic referral form and process via TELER.

Once the iPads were configured there was a process of rigorous testing to ensure the referral form fields corresponded with the database fields. As the form creates a referral in the TELER system, checks were made to ensure referral form data was correctly received and displayed by TELER.

Training

The project has highlighted the importance of effective training and how vital it is to test knowledge and ensure staff are ready to apply the learning to practice. The consequences of ineffective training can lead breakdown in the referral pathway, poor record management, delays to referral response times and poor patient care.

The training plan covered four areas: iPad, Natural Forms, the TELER system and the referral pathway. iPad training was delivered as part of the earlier mobile working project and teams were given a few weeks to adjust to the system, before moving on to the TELER training.

Lesson Learnt

Allow time for staff rotas and leave in training plan

To ensure the training ran smoothly, Longhand Data delivered

a preliminary session for a small group of nurses to allow for any questions and queries to be addressed and make any required changes/refinements to future training sessions. 40 nurses across 3 teams were trained over 3 weeks to accommodate the staffing rotas, i.e. who was available and when.

Nurses were trained to access and submit the electronic referral form, upload digital images, complete wound details and notes etc. Overall feedback from the training was positive and the nursing staff felt the referral form was intuitive and easy to use. The technical abilities of the nurses did vary, and those with no previous experience of using iPads/tablet technology were given additional support/training. YCC Administration Team also have a dedicated 'Super User' to provide one:one support and training until the staff are competent with the system and iPad. Refresher training continues to be provided by Longhand Data or the YCC administration team as and when required and all new staff are trained by Longhand Data.

Lesson Learnt

Rolling programme of refresher training needs to be in place.

Overall the training has been well received and staff have reported that the referral form and TELER software is intuitive and easy to use. However, this is not the case for everyone, especially those with limited IT skills, therefore absorbing the information and applying the training to practice has not been as successful, leading to a fear of TELER and reluctance to use it. Furthermore, some nurses might not need to use TELER for several months after initial training, therefore when they do eventually need to use it, they may have forgotten most of what they had learnt.

Indirect feedback has highlighted the need for a change management approach to address some of the negativity and adversity towards the new system. Where some staff have argued that recording on TELER is time consuming, others have suggested that the new process is causing duplication and extra strain on workloads. As with any change in practice it is common to meet some form of resistance, and it could be argued that some of the issues raised by staff are more about attitudes and belief in the system.

Information Governance

In order to assure the CCG that all NHS security, data protection and information governance requirements were in place, Longhand Data were required to provide evidence of their policies and protocols, some of which had to be developed from scratch as this was the first time Longhand had worked with a CCG.

Lesson Learnt

Data protection and security protocols require in depth evidence and will be time consuming if not already available. Allow sufficient time before embarking on projects where sharing data

All organisations that have access to NHS patient data must provide assurances that they are practising good information governance and use the IG Toolkit to evidence this. Where services are commissioned for NHS patients, the commissioner is required to obtain this assurance from the provider organisation i.e. Longhand Data and Healogics, and this requirement is set out in the commissioner-provider contract.

The Information Governance Toolkit is an online system which allows organisations to assess themselves or be assessed against Information Governance policies and standards. Longhand must conform to level 2 status on the NHS IG Toolkit.

Longhand Data were also required to produce a Privacy Impact Assessment (PIA). A PIA is a process to assist organisations in identifying and minimising the privacy risks of new projects or policies ensuring that potential problems are identified at an early stage, when addressing them will often be simpler and less costly.

Formal reassurances of data storage are required by Longhand to indicate where data is held at every step of the process within the TELER system. Therefore examples of sharing agreements of what they had previously put in place were provided.

Lesson Learnt

It cannot be assumed that all patients will want a change to their treatment plan and may refuse a referral.

During visits to patients, nursing staff carry a Patient Consent Form (**Appendix C**) seeking patient agreement to share personal information and digital images with 3rd parties i.e. between YCC and Healogics. A patient information leaflet (**Appendix D**) is also given to patients, identified for referral through TELER, providing information about the scheme and allowing patients the choice to opt out if they wish.

TELER Administrator

At the beginning of the project it was evident that there was a requirement for a dedicated administrator to oversee the TELER system from an operational perspective within YCC, who would be responsible for a number of tasks including:-

- Uploading the first identified cohort of patients onto TELER
- Checking the system daily for TELER alerts and redirecting to the appropriate nurse
- Responding to and redirecting referrals in absence of link nurse to prevent delays in care plan requirements (prescriptions/treatments)
- Dedicated TELER Super User to provide support and initial/refresher training for new and existing nursing staff
- Liaison point for all queries relating to the project and TELER
- Developing guidance notes/procedures
- Communicating operational procedures within YCC

YCC Evaluation of First 12 Months Roll Out

Being one of the largest community nursing providers in the area, YCC were an ideal primary care site for this project owing to the patient population size and the number of patients suffering with chronic wounds, who potentially met the criteria for referral to Healogics.

The proposal was welcomed by the YCC management team due to the education and development opportunity it presented to the community nursing team. Whilst it was acknowledged that the tissue viability service they already provided was of a high standard, as was the Specialist Tissue Viability Service provided by Care Plus Group, YCC could see the benefits of a remote triage service for the smaller cohort of patients, who had suffered with chronic, non-healing wounds for long periods of time.

Lesson Learnt

Knowledge transfer about wound care has benefitted patients outside the direct group treated and improved communications between clinicians locally too.

Since the project commenced, YCC nursing teams have met regularly to discuss case studies of the patients who have been referred to Healogics, shared images taken of the different wounds and discussed the treatment plans produced by Healogics as part of a learning process. This has been a valuable exercise for the nurses, which has expanded their existing knowledge and skills and increased their confidence to adopt different approaches in the treatment of other patients. These patients might not have been included in the pilot, but through the knowledge gained, more patients have benefitted.

YCC have also observed how the pilot has had the effect of improving collaborative working and communications between them and other wound care providers in the area such as the specialised tissue viability team, lymphedema specialist nurses and the diabetes podiatrist, which can only be of benefit to the patient.

Owing to the geographical distance between Healogics and YCC, regular contact and communication on all aspects of the project has been essential. Whilst communication is normally via email or telephone, periodical meetings and workshops have also taken place enabling the nursing staff to meet in person with the Healogics Team, build relationships and discuss specific patient cases. Link Nurses have also been accompanied by the Healogics team during visits to patients' homes, which has proved invaluable on both sides reinforcing professional relationships and communication.

One of the issues that arose during the roll out of the new pathway was that on one occasion there was a clinical difference of opinion between YCC and Healogics on the care plan of a patient. This led to a refining of the clinical governance arrangements to reflect the responsibility of Healogics in determining the care treatment plan.

Overall, time and staff resources have been the biggest obstacle for YCC. Implementing and reviewing care plans and updating the system with notes, reassessments and reviews has been time consuming. Earlier in the year a caseload review identified further patients meeting the inclusion criteria for referral to Healogics, however they could not be referred due to the lack of capacity, skill mix in the teams and understanding of the system. This was a result of a substantial reduction in nursing staff earlier in the year, who had left the team for other posts, leaving a significant skills and knowledge gap in the nursing team. Consequently, this impacted on other nurses' ability to dedicate time to the project.

Feedback from YCC Nursing Team

YCC have referred over 20 patients to Healogics between January – December 15. From the outset, 3 Link Nurses were identified to oversee the referral process and determine which patients met the criteria to Healogics.

As mentioned above, YCC have seen a significant turnover of staff over the past year, which has had a knock on effect on the pilot in respect of the number of patients that could have been referred to Healogics. However, YCC nurses all agree that pilot has produced “fantastic results”, especially for patients with long term chronic wounds. Nurses also felt that by following Healogics’ treatment plans the wounds improved or healed far quicker than they might have, if they continued with the previous treatment plan. In fact there was consensus that some wounds would still remain unhealed.

Nurses have reported that they were surprised at how good the quality and clarity of the images are that are sent via TELER and were even more impressed that Healogics can accurately diagnose and produce care plans for the wound, simply by viewing the photos and holding a quick phone consultation. One nurse commented "It’s Incredible how [Healogics] can see minute detail on the images, that our nurses hadn't even picked up on". Nursing staff have all agreed that the guidance and advice from Healogics has been invaluable and has enabled them to learn new techniques and approaches which has enabled them to apply this to other patients with newly diagnosed wounds.

Lesson Learnt

Nurses need allocated time during working hours to update TELER.

The main issues for the nurses at YCC has been finding the time to update TELER and some nurses have found that they haven’t been able to update the system for weeks, leading to a breakdown in the process and reviews not being completed on the system. Link nurses have also reported they have to update TELER in the evenings as there isn’t sufficient time in the working day to do this. Although all nurses were trained to use TELER, feedback suggests that not all nurses are referring to it and are leaving this for the Link Nurses to do, thus creating backlogs in the system.

The resounding feeling amongst the YCC team is that given more time to dedicate to TELER and wound care, without the other operational pressures, there is no doubt that remote triage would be the way forward for wound care in NEL.

Roxton Practice Evaluation of First 6 Months Roll Out

In May 2015, having learnt about the successes of the project within YCC, the CCG was approached by the Roxton Practice to discuss the potential to refer a number of patients, with chronic wounds, to Healogics via TELER. Soon after, the team received training on TELER and within a few weeks had referred 6 cases to Healogics.

Currently, there is one practice nurse with lead responsibility for referring cases and updating the TELER system. Feedback from the nurse has been positive, and patients have already seen improvements in their treatment and wound condition.

Internet problems have caused delays in recording and inputting onto TELER and like YCC, the practice nurse can struggle to find the time to update the system contemporaneously, whilst with a patient. Patients arriving late for appointments also restrict the time available for the nurse to update TELER during the consultation.

There have been occasions where district nurses have failed to visit patients on a weekend, requiring daily treatment, this affects the treatment plan and leads to unnecessary delays in the care plan. This is possibly due to the fact that the DNs haven't looked at the case notes on TELER.

Lesson Learnt

District nursing understanding of TELER to be reviewed with training given if required.

Rather profoundly, having noticed significant improvements in their care and wound healing status, some patients have implied that they did not want their wound to heal. One patient had concerns about their benefit entitlement if the wound healed and another patient refused a referral to Healogics fearing the repercussions if their wound healed. In other words, the wound that they have borne for several years had brought about a certain way of life that they fear would change, which they were not prepared for.

Feedback from the Practice Nurse has been extremely positive. Although use of the TELER system needs to be factored in to be built into work time and refresher training on the system was deemed to be helpful, the main technical difficulty centred on access to the practice WIFI system which was sporadic and generated delays in updating.

What the patients told us

"All patients have been grateful especially a man who has had these painful smelly legs for 7 years, and a lady who had them on and off for around 5 years".

In terms of the clinical experience, the practice nurse found the input from Healogics beneficial in relation to her own professional development and the outcomes achieved for patients.

Due to operational pressures in the practice only one nurse has become proficient in the use of TELER and the pathway, however the intention is to roll it out to the other practice nurses early in 2016.

TELER Reporting

The report below summarises the number of patients referred by YCC (NEL) and Roxton over the past year 1 February 15 – 31 January 16.

Insert summary report – format to be confirmed

As at 20th January 2015

- 30 patients were triaged through TELER (2 deceased)
- 30 assessments were undertaken

- 32 reviews were undertaken

The majority of wounds triaged by the system remain leg ulcers of either mixed aetiology or lymphovenous /lymphoedema (Table 1) and 2 simple venous leg ulcers, both of which have been present for over 4 months.

The wound duration has been on average 6-12 months with the majority being leg ulceration. This figure should be around 3 months average duration (Table 2) with specialist care, from point of referral, however the majority of patients referred to Healogics have suffered with their wounds for months or years prior to referral and have complex health issues and co-morbidities.

Table 1

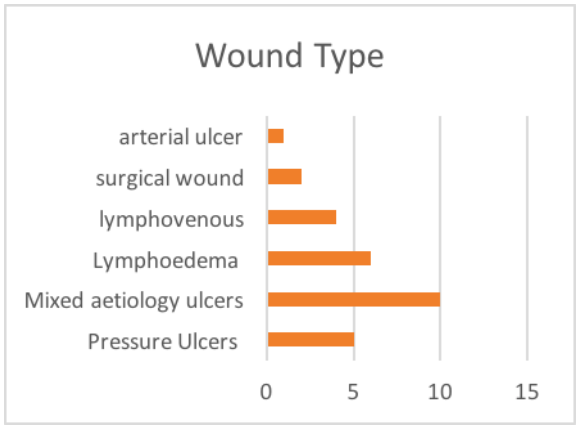


Table 2

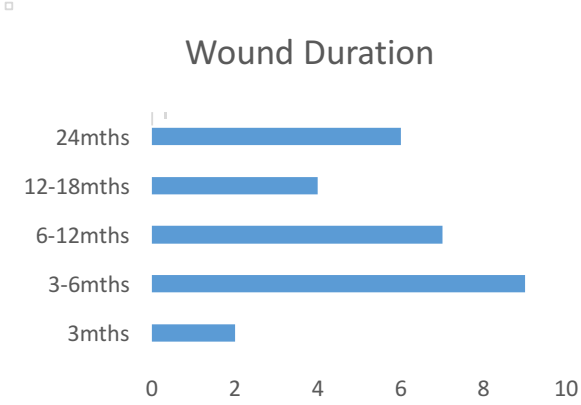


Table 3 shows that the majority of patients where care plans have been followed, have healed or are improving. Two patients have been referred back to the GP, three for concordance issues and another patient has died.

Of the patients whose wounds have healed, 4 were pressure ulcers with an average wound duration of 3-6mths and 8 were leg ulcers with an average duration of 6-12mths (Table 4).

Therefore the average healing time is around 3 months which is line with healing outcomes for specialist leg ulcer care as opposed to generalist care.

Table 3

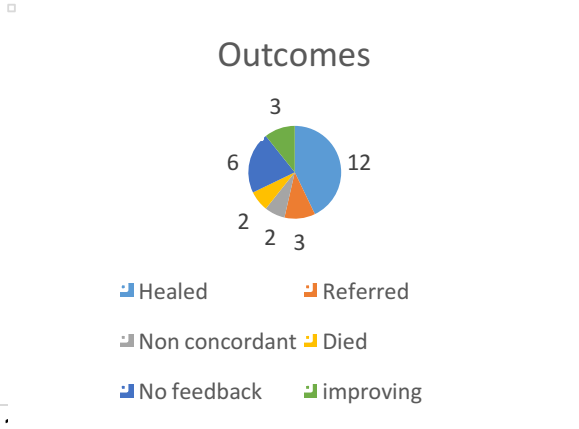
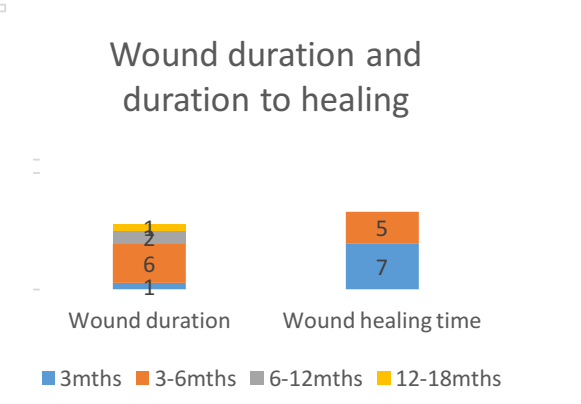


Table 4



Healogics Clinical Case Studies

Appendix E presents the case studies of eight patients whose wounds have healed following referral through the project from YCC and Roxton. A further case study is provided regarding a patient with very complex needs, who had his risk of a second amputation significantly reduced and has experienced significant progress towards healing with a reduction in his episodes of recurrent infection.

Case Study

"One patient with very complex needs has had his risk of a second amputation significantly reduced."

Each case study has been costed pre and post TELER referral with a summary of the challenges experienced. The estimated costs are based on information uploaded to the TELER system by the community and practice nurses from YCC and Roxton. The costs do not include antibiotic prescribing, GP costs, dressing packs and personal protective equipment. All nursing costs are based on £22.50 per 30 minute appointment.

The cases presented show there have been significant cost savings, releasing time for nurses to direct their efforts to other patients. However the unquantifiable cost to the patient of years suffering with a wound has not been assessed, but clearly these wounds will have significantly negatively impacted upon their lives. The future development of TELER indicators to determine patient outcomes, will serve to provide this level of information.

Comments

Compared with how the nursing teams would normally treat a wound of this type the Treatment Plan prescribed by Healogics *"definitely made a difference to the end result and the wound healed".*

Patient receiving treatment sadly died due to other causes but *"was making really good progress with the chances that he would have avoided plastics".*

"Patient suffered with chronic pressure sores for around a year before referral to Healogics. There were a few problems with identifying the right dressing, but once the right dressing was found the wound healed in around 4-5 months."

"Patient referred to Healogics with chronic damage to the heal in Feb 15 healed and discharged by Oct 15."

"Wound to back of calf - oedema, was referred directly to Healogics when he presented to nurse in Sept 15 and quickly healed."

"We have had some fantastic results for our patients."

"TELER System is straightforward."

One of the main problems is that lots of nurses can be involved with the patient as *"any nurse can deliver the care plan and we all dress/treat differently".*

Some wounds might have healed even sooner but some patients *“Don’t help themselves and there are limitations on what you can do”.*

“There has only been one issue regarding a review date that had passed, but nurse made contact with Healogics and this was quickly resolved.”

"Getting hold of Healogics was easier than getting hold of our TV nurses"

In larger teams it might be better to have a small team of nurses to deal with wounds to reduce number of nurses involved in the care plan.

Nurse has *“not been on TELER for 3 weeks as time doesn't allow”.*

“I have to update the system [TELER] in the evenings after work”

Some nurses are following the Treatment Plans, but haven’t had much involvement with the pilot so don’t update TELER. *"They don't want to step on anyone's toes".*

Since introduction of TELER and working with Healogics, *“we have applied similar methods and treatment plans to patients who have not been referred to Healogics and have seen good results”.*

"It’s Incredible how [Healogics] can see minute detail on the images, that nurse hadn't picked up on"

If you were better resourced would you want to continue with TELER?
"Yes definitely"

“Why wouldn’t you want to do it?”

“It is recognised that this is a pilot and its vital to recognise the challenges experienced so the experiences can inform future development.”

“It is clear that the Practice Nurses have been able to engage with the TELER system more easily than their Community Nurse colleagues.”

Conclusion

Overall the project has achieved many of the aims it originally set out to accomplish, and the case studies provided highlight the benefits for patients and potential savings to be made. As the patient numbers within this first phase rollout have been minimal, it is difficult at this stage, to compare outcomes between those patients who have been referred remotely against patients in a control group. However, through the use of TELERWoundcare we have seen how data can be captured to monitor heal times, referral response times and patient outcomes, which has been historically difficult to achieve.

One of the key benefits of TELER is the ability to store digital images and build a visual chronology of a wound, and through the sharing of these images for clinical discussion, it has promoted better awareness and increased knowledge amongst nursing staff, who have found this facility 'invaluable'.

Feedback from the nursing staff has also highlighted that a remote triage service can complement and support existing wound care services in NEL, and as a result can reduce the burden on already overstretched tissue viability nurses to direct their time and attention to those patients most in need. Staff have also valued the visits by the Healogics triage team, which enabled the YCC nurses to meet them in person and build a rapport. The Healogics team accompanied the YCC nurses during patient visits, which proved highly effective and served to improve the confidence of the nursing staff when following Healogics treatment plans.

Given the versatility of TELER, this pilot has highlighted the potential for the technology to be utilised in other specialities in health and social care such as Stroke rehabilitation and physiotherapy (already operating elsewhere) and overall feedback from the users of the system has been positive with most finding it intuitive and simple to use. Only a few users within YCC have struggled to use the system through a general lack of experience with using iPads, however training support is readily available within YCC and Longhand to address these needs, and the majority of users are now conversant with the technology.

Overall, the project has been received positively within YCC and Roxton, but it is fair to say that the main issue for both medical centres has been finding the time to record key information on the TELER system such as treatments, review and discharge information. This information is vital to demonstrate the healing times, costs and outcomes of the project and without it, measuring performance and outcomes is difficult. However, this should not be seen as a barrier to progress, as this can be addressed through further training, which is included within the recommendations of this evaluation.

It is acknowledged that delivering service changes of this nature requires a managed approach and although there has been a great deal of time and commitment invested in the planning and preparation stages, some issues remain with a minority of staff who are disinclined to embrace the process, preventing them from seeing beyond the barriers that could easily be overcome.

We know that around 55% of district nursing time is spent on wound care in NEL, coupled with unknown cost of practice nurse time, and the results we have seen through the case studies substantiate the theory that that there is scope to significantly reduce district nursing time on wound care. In doing so, this valuable resource can be redirected to other services that need it.

It has been suggested that better wound care, such as effective diagnosis and treatment and effective prevention of wound complications would help minimise treatment costs.

Lesson learnt

Efficiencies in utilisation of Nursing time as a result of faster healing times could release capacity to redeploy precious resource to focus on emerging need, such as long term condition care.

Studies have highlighted that there is potential for better patient management and wound care product selection that would improve outcomes and reduce costs". [3]

The Healogics ethos is that successful outcomes depend on three factors:-

- Correct diagnosis
- Consistency of Care
- Correct treatments and dressings

It is common for wounds to be mis-diagnosed resulting in the wrong treatments and dressings being used, which leads to exacerbation of the wound state or at the very least, delays to the healing process. However, consistency of care is equally important and Healogics have found that when the patient is given adequate time and continuity of expert practitioners, healing times can be reduced. Evidence proves that where fewer nurses are involved in the patient's treatment plan, they gain the patients' trust, which in turn improves engagement and concordance, meaning the patient is more likely to stick with their treatment plan and see quicker results. We know that putting this into practice can be problematic, especially in practices where the nursing teams are larger, however it is acknowledged by local nurses that this would undoubtedly improve healing times and patient outcomes.

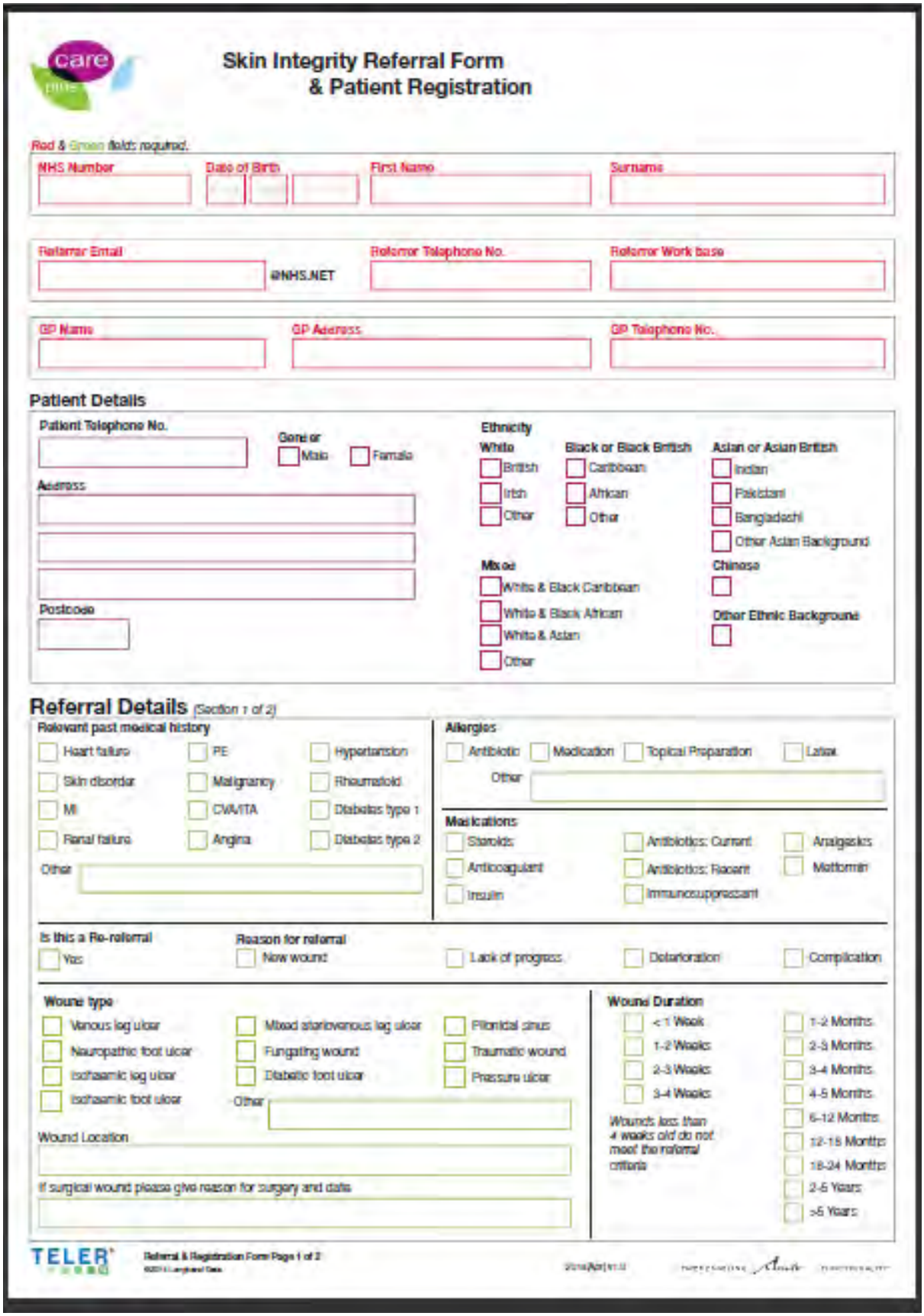
Recommendations

1. Refresher training for all users of TELER including District Nursing Teams to ensure consistency of practice across all teams.
2. Review the referral pathway to ensure the process is understood and working effectively, re-communicate to all nursing teams.
3. Develop staff survey or method consultation to determine the factors impacting on usage, recording and updating the TELER system.
4. Use outcome data to inform commissioning specifications for local Tissue Viability Nursing service.
5. Review TELER administration role currently undertaken by Operational Business Manager at YCC.
6. Development of TELER indicators to monitor patient outcomes.
7. Model use of TELER and access to a higher level of clinical expertise in wound care across a broader patient cohort
8. Continue to work with YCC and Roxton and roll out wider within primary care, acute trust and care homes.

Appendix A – Workshop Attendee List September 2013

Rachel Staniforth	CSU	
Fiona Collins	Eastbourne Wound Healing Centre	
Fiona Fahy	Eastbourne Wound Healing Centre	
Sylvie Hampton	Eastbourne Wound Healing Centre	
Professor David Gray	Healogics Wound Healing Centres	
Diane Hughes	Northern Lincolnshire & Goole Hospital	Apologies
Judith Barnard	Northern Lincolnshire & Goole Hospital	
Tara Filby	Northern Lincolnshire & Goole Hospital	Apologies
Georgiou Maureen	Northern Lincolnshire & Goole Hospital	Apologies
Lesley Robinson	Ashlea Lodge Care Home	
Hayley Wood	The Roxton Practice	
Jeanette Logan	NHS NE LINCOLNSHIRE CCG	
Leanne Barrick	NHS NE LINCOLNSHIRE CCG	
Lisa Hilder	NHS NE LINCOLNSHIRE CCG	
Paul Kirton-Watson	NHS NE LINCOLNSHIRE CCG	
Lindsey Conway (district nurse lead)	Dr JRC Potter and Partners	
Mercedes Mello-Jenkins (practice Manager)	Dr KA Collett and Partners	Apologies
Mel Carr	Dr KA Collett and Partners	Apologies
Tina Sykes		Apologies
Gillian Mould	TV Service N Lincs	Rep Maureen Georgiou
Georgina Higgins	Care Plus Group	
Anne Martin	Care Plus Group	
Elizabeth Clift	Clinical Lead Nurse Yarb/Clee	
Craig Duffield	Longhand Data Software Engineering	

Appendix B – Skin Integrity Referral Form



Skin Integrity Referral Form & Patient Registration

Red & Green fields required.

NHS Number | Date of Birth | First Name | Surname

Referrer Email @NHS.NET | Referrer Telephone No. | Referrer Work base

GP Name | GP Address | GP Telephone No.

Patient Details

Patient Telephone No. | Gender: Male / Female

Address

Postcode

Ethnicity

White: British / Irish / Other

Black or Black British: Caribbean / African / Other

Asian or Asian British: Indian / Pakistani / Bangladeshi / Other Asian Background

Mixed: White & Black Caribbean / White & Black African / White & Asian / Other

Chinese

Other Ethnic Background

Referral Details (Section 1 of 2)

Relevant past medical history: Heart failure / PE / Hypertension / Skin disorder / Malignancy / Rheumatoid / MI / CVA/TIA / Diabetes type 1 / Renal failure / Angina / Diabetes type 2 / Other

Allergies: Antibiotic / Medication / Topical Preparation / Latex / Other

Medications: Steroids / Antibiotics: Current / Analgesics / Anticoagulant / Antibiotics: Recent / Metformin / Insulin / Immunosuppressant

Is this a Re-referral: Yes

Reason for referral: New wound / Lack of progress / Deterioration / Complication

Wound type: Venous leg ulcer / Mixed arterial/venous leg ulcer / Pilonidal sinus / Neuropathic foot ulcer / Fungating wound / Traumatic wound / Ischaemic leg ulcer / Diabetic foot ulcer / Pressure ulcer / Ischaemic foot ulcer / Other

Wound Location

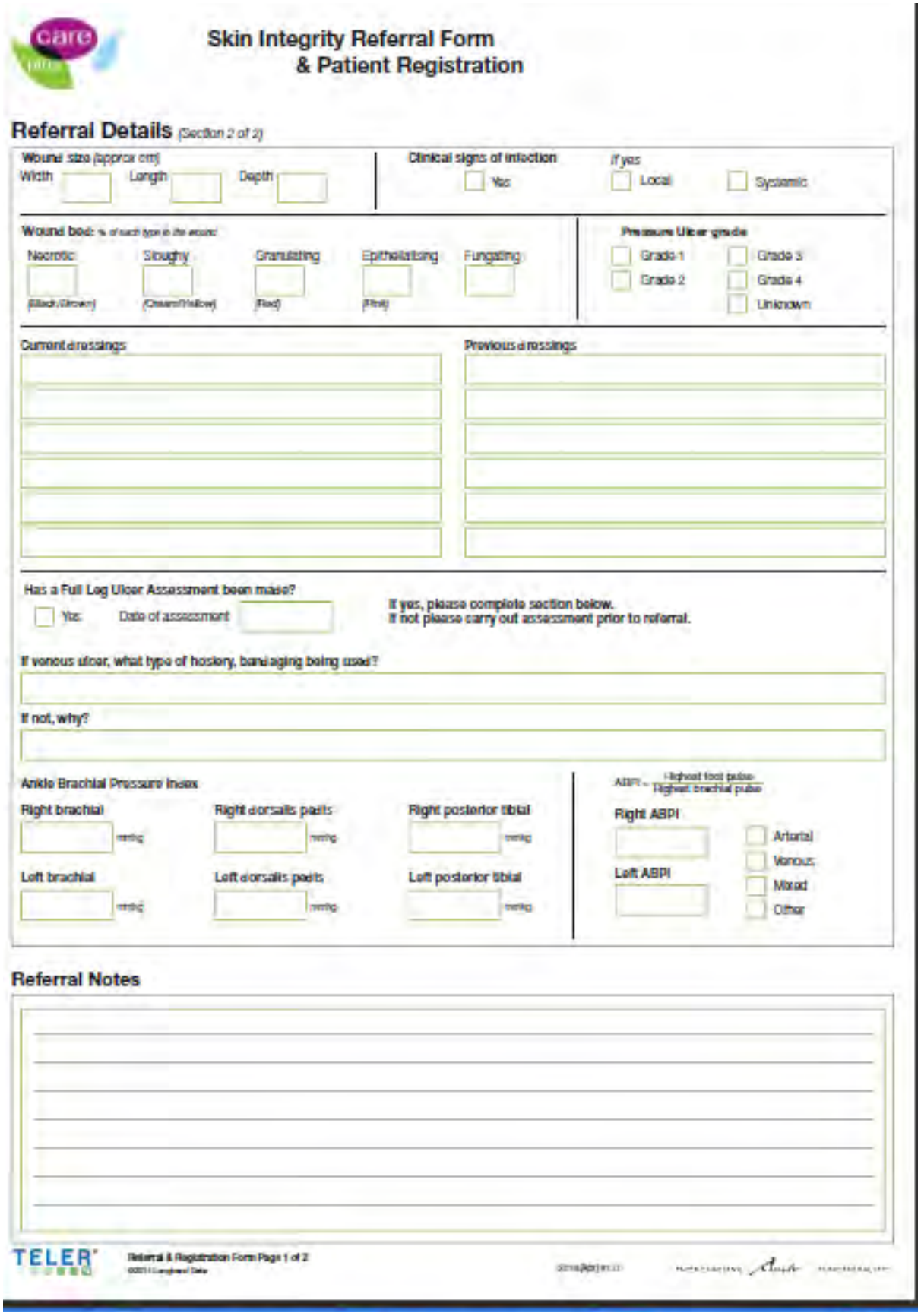
If surgical wound please give reason for surgery and date

Wound Duration: < 1 Week / 1-2 Weeks / 2-3 Weeks / 3-4 Weeks / 1-2 Months / 2-3 Months / 3-4 Months / 4-5 Months / 6-12 Months / 12-18 Months / 18-24 Months / 2-5 Years / >5 Years

Wounds less than 4 weeks old do not meet the referral criteria

TELER

Referral & Registration Form Page 1 of 2



Skin Integrity Referral Form
& Patient Registration

Referral Details (Section 2 of 2)

Wound size (approx cm)
Width | Length | Depth

Clinical signs of infection
☐ Yes
If yes
☐ Local ☐ Systemic

Wound bed: % of each type in the wound
Necrotic (Black/Brown) | Sloughy (Cream/Yellow) | Granulating (Red) | Epithelialising (Pink) | Fungating

Pressure Ulcer grade
☐ Grade 1 ☐ Grade 3
☐ Grade 2 ☐ Grade 4
☐ Unknown

Current dressings

Previous dressings

Has a Full Leg Ulcer Assessment been made?
☐ Yes Date of assessment

If yes, please complete section below.
If not please carry out assessment prior to referral.

If venous ulcer, what type of hosiery, bandaging being used?

If not, why?

Ankle Brachial Pressure Index

ABPI = Highest foot pulse / Highest brachial pulse

Right brachial mmHg | Right dorsalis pedis mmHg | Right posterior tibial mmHg

Left brachial mmHg | Left dorsalis pedis mmHg | Left posterior tibial mmHg

Right ABPI

Left ABPI

☐ Arterial
☐ Venous
☐ Mixed
☐ Other

Referral Notes

TELER

Referral & Registration Form Page 1 of 2

Appendix C – Patient Consent Form

Patient Consent for Clinical Photography

Signed consent must be obtained when undertaking clinical photography for education, publication or research purposes.

Photographs will be taken by the use of Camera ▫

Confidentiality will be maintained and your details will remain anonymous at all times.

Name: NHS No:

DOB: Requested by:

Options below:

1. For my medical records and care only ▫
2. For my medical records, care and training of appropriate medical/ professional staff ▫
3. For my medical records, care and training of appropriate medical/ professional staff, publication and research purposes ▫

Signed …….

Name (Print) ……

Date …….

Clinician signature …….

Appendix D – Patient Information Leaflet

Dear Patient,

Today we will be using a new patient notes system that is being piloted in this area.

The new system is called TELERWoundcare; it allows us to get specialist wound care advice for every patient we see. They can give us the most up to date advice for treating your wound.

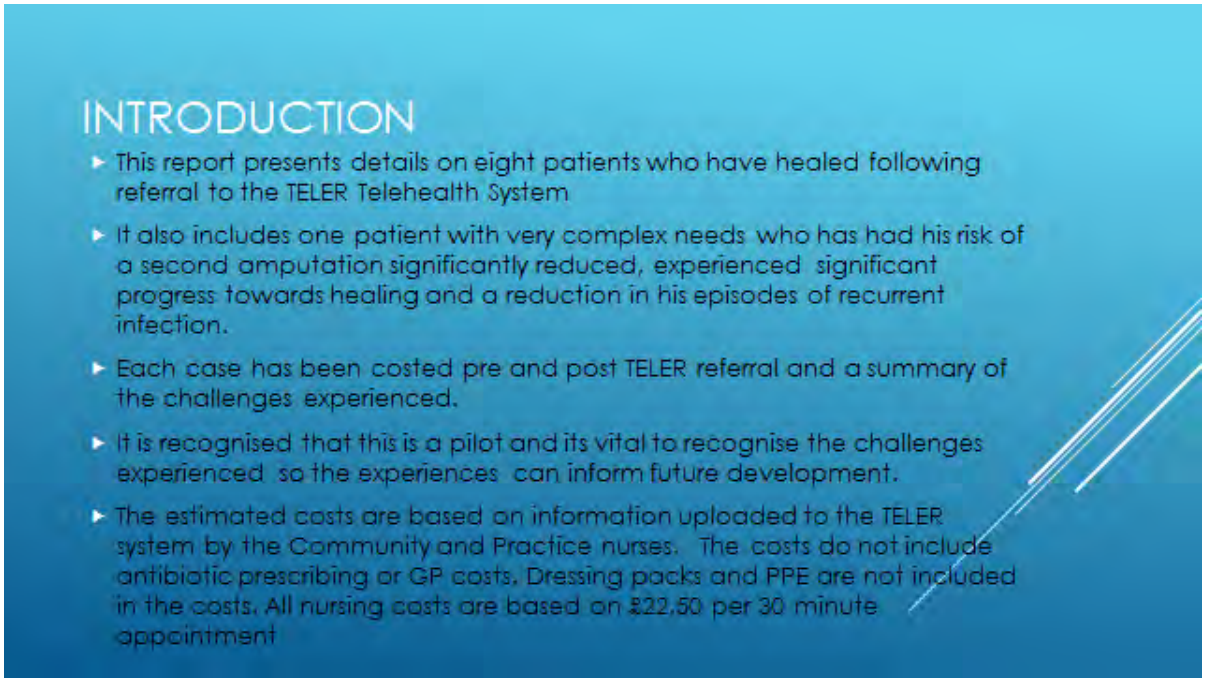
This is possible because specialist doctors and nurses will see details of your wound and your current care plan. They will advise us if they think there are additional ideas or treatments that could improve the care you receive.

Your medical notes and any images taken will be stored in the same way as your current NHS health records; in strict accordance with patient data and image security and storage legislation.

If you have any concerns in relation to how your health records are stored, please discuss this with your health practitioner.

Thank you.

Appendix E – Telehealth Project Interim Results



CASE STUDY 1- 85 YEAR OLD WITH LYMPHOVENOUS LEG ULCER

- **Wound Duration**: 16 weeks
- **Co –morbidities:** Diabetes Type 2, Deep vein thrombosis and Hypertension
- **Estimated dressing costs Of pre TELER referral : £375.48**
- **Estimated nursing time costs: £1440**
- **Total: £1815.48**
- **Treatment Costs to healing: £476.37**
- **Nursing costs to healing:£855**
- **Total: £1061.37** + Healogics costs = **£1286.37**
- **Time to Healing 13 weeks**
- **Cost Saving £529.11**

CASE STUDY 2- 66 YEAR OLD - GRADE 4 PRESSURE ULCER

- **Wound Duration**: 72 weeks
- **Co –morbidities:** Motor neurone disease , hypertension, hypoparathyroidism.
- **Estimated costs of Pre TELER dressing referral: £2187.40**
- **Estimated nursing time costs: £4860**
- **Total: £7047.40**
- **Treatment costs to healing: £637.38**
- **Nursing costs to healing + Healogics costs £1260**
- **Total: £2122.38**
- **Time to Healing 14 weeks**
- **Cost Saving £4925.02**

CASE STUDY 3- 69 YR OLD –LYMPHOVENOUS LEG ULCER

- **Wound Duration**: 12 weeks
- **Co –morbidities**: Diabetes , stage 3 kidney disease, hypertension.
- **Estimated costs of Pre TELER dressing referral: £506.40**
- **Estimated nursing time costs: £1350**
- **Total: £1856.40**
- **Treatment to healing dressing costs: £258.60**
- **Nursing costs to healing + Healogics costs :£750**
- **Total: £1008.60**
- **Time to Healing 8 weeks**
- **Cost Saving: £847.80**

CASE STUDY 4- 92 YR OLD – PRESSURE ULCER GRADE 3

- **Wound Duration**: 40 weeks
- **Co –morbidities**: immobile
- **Estimated costs of Pre TELER dressing referral: £1185.60**
- **Estimated nursing time costs: £2700**
- **Total: £3885.60**
- **Treatment to healing costs: £724.80**
- **Nursing costs to healing + Healogics costs : £1500**
- **Total: £2224.80**
- **Time to Healing 20 weeks**
- **Cost Saving: £1660.80**

CASE STUDY 5- 83 YR OLD- LEG ULCER

- **Wound Duration**: 40 weeks
- **Co –morbidities:** Chronic kidney disease and dementia
- **Estimated costs of Pre TELER dressing referral: £793.20**
- **Estimated Nursing time costs: £2700**
- **Total: £3493.20**
- **Treatment time to healing costs: £424.72**
- **Nursing costs to healing + Healogics cost: £1321.50**
- **Total: £1746.22**
- **Time to Healing: 18 weeks**
- **Cost Saving: £1746.98**

CASE STUDY 6- 96 YR OLD – PRESSURE ULCER GRADE 3

- **Wound Duration: 20 weeks**
- **Co –morbidities: Dementia**
- **Estimated costs of Pre TELER dressing referral £361.80**
- **Estimated Nursing time costs: £1350**
- **Total: £1711.80**
- **Treatment costs to healing: £285.47**
- **Nursing costs to healing plus Healogics costs : £1305**
- **Total: £1590.47**
- **Time to Healing: 16 weeks**
- **Cost Savings £121.33**

CASE STUDY -71 YEAR OLD WITH VENOUS LEG ULCER

Wound Duration: 12 months

Co –morbidities: Immunosuppressed

Previous estimated dressing costs: £350

Estimated Nursing time costs:£2340

Total costs: £2690

Treatment time to healing costs: £192.92

Nursing costs to healing + Healogics cost:

Total: £840

Time to Healing: 12 weeks

Cost Saving: £1850

CASE STUDY – 60 YEAR OLD WITH LYMPHOVENOUS DISEASE

Wound Duration: 3 months

Co –morbidities: Obesity and hypertension

Previous estimated dressing costs: £228.24

Estimated Nursing time costs: £810

Total costs: £1038.24

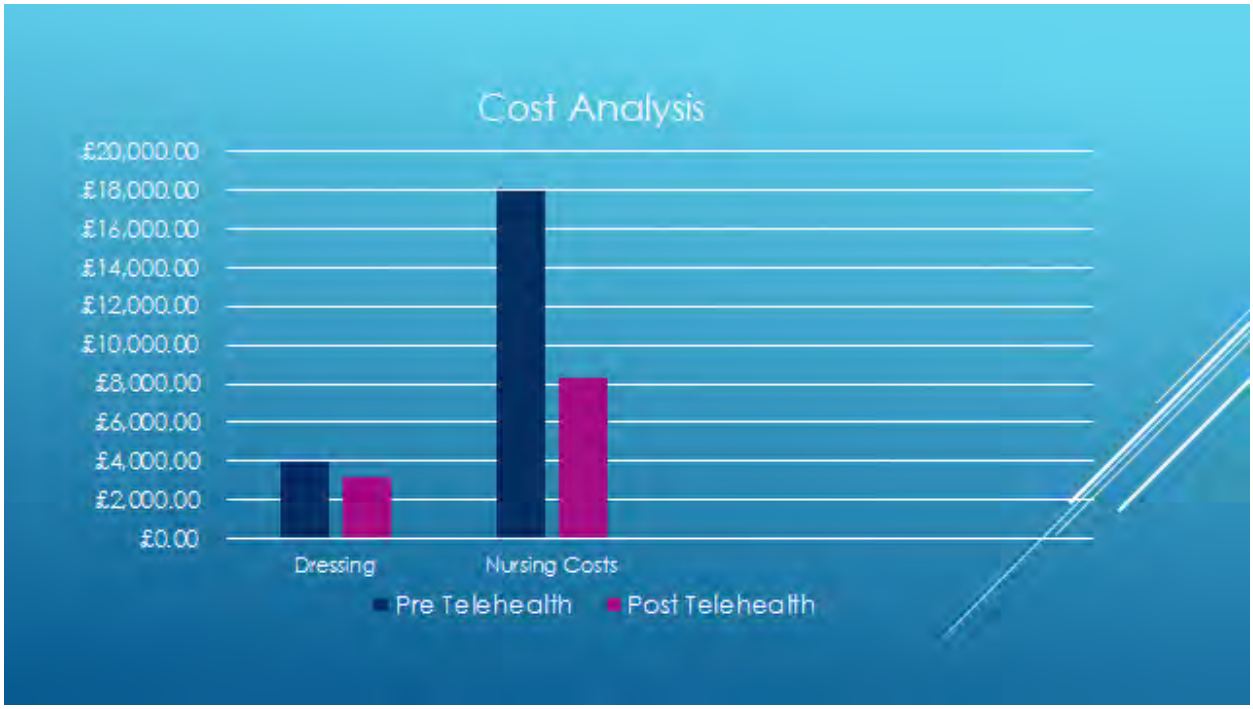
Treatment time to healing costs: £192.24

Nursing costs to healing + Healogics cost:

Total: £492.24

Time to Healing: 12 weeks

Cost Saving: £546



PROJECTED COST SAVINGS

The total cost of the projected savings for the six patients is £10,444.24 divided between nursing time and dressing costs.

The majority of the costs are associated with nursing time releasing time for community nurses and practice nurses.

It is clear that the Practice Nurses have been able to engage with the TELER system more easily than their Community Nurse colleagues.

Discussions around this topic suggest this is a multi-factorial problem for Community Nurses.

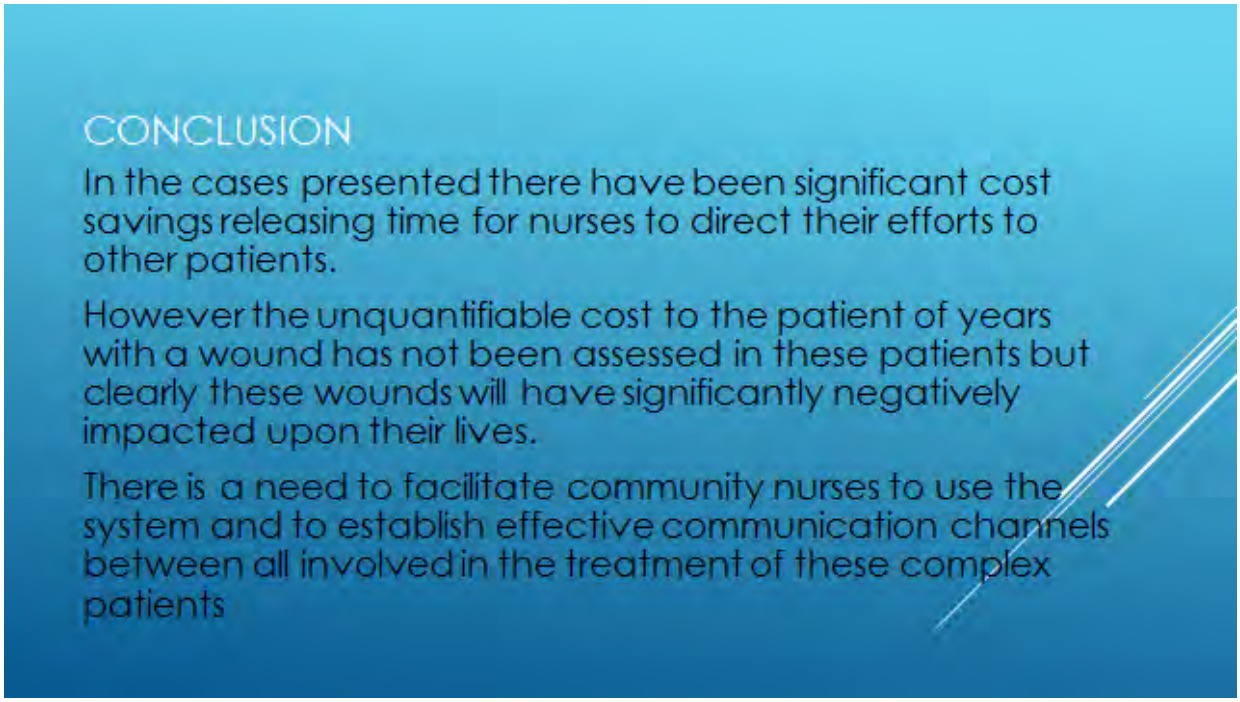
CASE STUDY-56YR OLD LYMPHOVENOUS LEG ULCER

- **Wound Duration**: **7 years**
- **Co –morbidities**: Post drug user.
- **Previous estimated dressing costs:** Based on basic dressing costs for 3 times a week **=£14,146**
- **Estimated Nursing time costs :** Based on £22.50 per 30 minute appointment = **£24,570**
- **Total cost to date**: **£38,716**

Currently his weekly cost is £19.23 and nursing costs, £45.00 **Total £64.23 per week**

Total costs to date: **£513.84 for 8 weeks** treatment and the wound is progressing and has reduced in size and he has had no recurrent infections since the treatment commenced. If he continues on this healing trajectory it should heal within the next 8 to 12 weeks.

Challenges: This gentleman has concordance issues and can be difficult to treat due to his fear of potentially losing his benefits if the ulcer heals. the skin was in poor condition and this was leading to recurrent cellulitis


CONCLUSION
In the cases presented there have been significant cost savings releasing time for nurses to direct their efforts to other patients.
However the unquantifiable cost to the patient of years with a wound has not been assessed in these patients but clearly these wounds will have significantly negatively impacted upon their lives.
There is a need to facilitate community nurses to use the system and to establish effective communication channels between all involved in the treatment of these complex patients

Appendix F - Clinical Case Studies Healogics

(Please see attachment to this report)