

Evaluation of a Telehealth Initiative in Wound Management

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Agenda

- Drivers behind the initiative
- The pilot project
- Evaluation
- Recommendations
- Future directions

- 46% community clients – wound related (Okanagan Study)
- Lengthy wait times to access wound specialist – due to limited number
- Inconsistency in wound care practices and product usage.
- Lack of continuity of information during the episode of care.
- Inability to track costs, wound healing time and other stats.

A study carried out in the Central Okanagan found that for a sample population of 386 community clients, 46% were seen for a wound related issue. Many of these wounds are complex or chronic in nature. Chronic wounds are among the most intractable conditions confronting community nurses, many of whom lack the specialty skills required to treat wounds adequately. According to literature, wounds can heal twice as fast if a specialist is involved in the treatment of the wound. Within Interior Health access to wound/ostomy specialists is difficult as the number of these nurses is very limited

As a result, Interior Health is faced with several challenges related to wound management:

Lengthy wait times (approximately 6 weeks) associated with community care visits by the specialist

Human and capital resource utilization related to extensive travelling

Continuity of information during the episode of care, resulting in inconsistencies applying the most effective method of treatment

What is Telewound (Pixalere)

- A method of reviewing wounds that enables the wound specialist to provide expert and timely advice in the treatment of difficult to heal wounds.



This system offers a method of reviewing wounds that enable the Wound Nurse Specialist to provide expert and timely assistance to the community nurse in the treatment of difficult to heal wounds.

“Pixalere contains a database of all products, product costs and the ability to track precisely how much product has been used over a specified time period. Using Pixalere, it is now possible to generate an exact report on how much money is being spent on specific products and product categories, both globally and for individual patients or areas”

Telewound Pilot Project

- Launched in May 2004
- Three sites chosen:
Revelstoke, 100 Mile House
and Kamloops
- Laptop and digital cameras for
community nurses.
- Training on Picalere – the
software program of choice
- Over 100 clients participated
and approximately 20
community nurses.



In May 2004 a one year tele-wound pilot project was initiated in three communities within the Thompson Cariboo Shuswap (TCS) Health Service Area: Kamloops (half of the group), 100 Mile House and Revelstoke. The purpose of the tele-wound project was to use a software program (Picalere) and a digital camera to assist community nurses in the assessment of wounds. This system offers a method of reviewing wounds that enable the Wound Nurse Specialist to provide expert and timely assistance to the community nurse in the treatment of difficult to heal wounds.

- Increase access to wound specialists
- Improve healing
- Standardize on wound products
- Facilitate implementation of wound protocols
- Improve quality of wound care



The objectives of the pilot project were to gather information to evaluate whether the incorporation of the Tele-Wound Care Management System – “Pixalere” - in the management of complex wounds within Community Care will:

Increase accessibility to clinical wound specialists for clients in the community with complex wounds;

Standardize wound assessment and documentation;

Facilitate implementation of wound protocols;

Improve the quality of wound care by using best practice protocols;

Increase the appropriate use of standardized advanced wound care products leading to reduced costs of complex wound management;

Ascertain efficacy and usability of laptop technology and camera/photo quality and its interfacing capabilities;

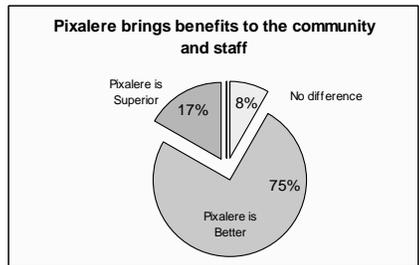
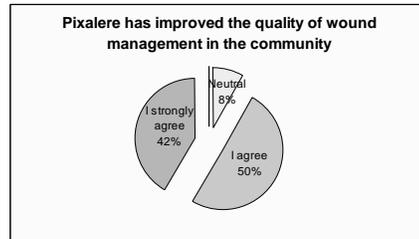
Evaluation Methodology

- Stakeholder surveys including community nurses and clients.
 - Surveys incorporated a rating scale as well as an area for comments.
- Informal interviews with community nurses, wound specialist and project sponsor.
- Literature review.

The evaluation consisted of stakeholder surveys of the community nurses and clients; informal interviews with the wound ostomy specialist for TCS (Wendy Grywacheski) and the project sponsor (Linda Comazzetto); information from meetings during the pilot project; and information from the literature. The surveys incorporated a rating scale as well as the ability to provide comments for all questions. The evaluation attempted to assess if the pilot project met its objectives. The following is a summary of the findings of the evaluation process.

Evaluation Results: Staff Satisfaction

- 92% of staff agreed that the use of Pixalere improved the quality of wound management in the community
- 92% of staff viewed Pixalere as effective in bringing benefits to patients and staff.



Thirteen community nurses completed the survey (Appendix A). Survey results indicate a high degree of staff satisfaction using Pixalere, as well as perceived value in the use of this technology. 92% of the community nurses believed that the use of Pixalere improved the quality of wound management in the community. 92% of those surveyed viewed Pixalere as effective in bringing benefits to both clients and staff and the same number would like to continue to use Pixalere in the future. 100% of those surveyed felt it was important to explore the use of technology to enhance delivery of quality client care in Home and Community.

Evaluation Results: Staff Satisfaction ...cont.

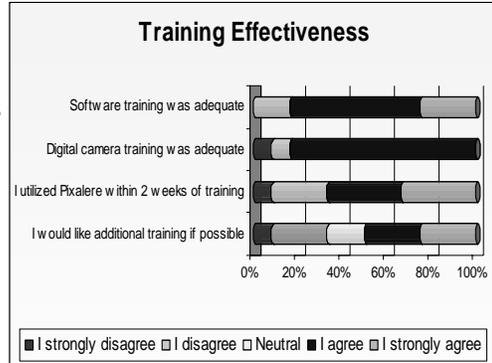
- ***“I like the fact I am able to easily contact a wound care specialist”***
- ***“It is nice to know that there is someone at a large body of knowledge that we can access.”***
- ***“Faster turn around time for response from specialist.”***
- 92% staff believed having access to the specialist improved the care they provided.
- Split on their belief that products indicated by the specialist led to reduced costs.

92% of the community nurses believed that they could provide the best possible care to their client because they had access to a specialist.

The community nurses were split on whether the use of dressing supplies indicated by the specialist led to reduced cost of complex wound management. Five believed costs were saved, six were neutral and one disagreed. A similar split occurred when asked about an increase in healing time, with 50% agreeing they noticed an increase in healing time and 50% being neutral on this.

Evaluation Results: Technology & Training

- Technology was not used as expected.
 - Timing of pilot before summer – not all nurses received training.
 - Limited number of laptops with the wound management software.
- 83% staff indicated training was adequate.
- 66% would like additional training.



even though the equipment used (laptops and digital cameras) is portable, it was found that nurses were not taking the laptops into the client's homes. The nurses found it easier to take an assessment sheet with the digital camera into the client's homes and enter the information into the system upon their return to the office. As a result double charting is occurring.

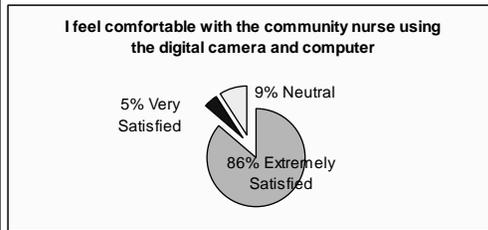
There are several reasons why the laptops are not being used in the clients' homes:

Picalere was rolled out just before the summer and only a limited number of nurses were trained. With the summer came vacations and the need for non-trained nurses to follow up on Picalere patients. The only way this could be done was using a manual assessment form.

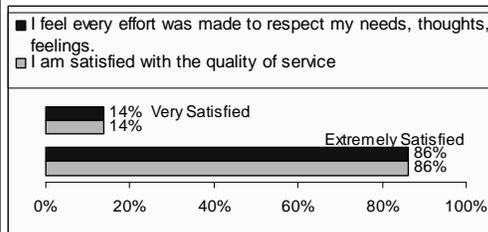
Picalere was rolled out prior to InterRai. A limited number of laptops had the wound image built into it. Nurses used to keep these laptops on a pool so they could share them. When InterRai was implemented, many more laptops were deployed but these did not have the "wound image". All laptops will be re-imaged to include both Picalere and InterRai. The usage of the laptops in the homes will be monitored to see if usage increases with Picalere available on all laptops.

While 83% of the respondents indicated that the training was adequate, 66% would like additional training if possible. The areas requiring further training include the use of the technology (taking photos, uploading and downloading photos, and uploading information to the server), the functionality within Picalere (treatment window, navigating through the Picalere menu), and processes (following up on patients from another nurse, making sure the specialist provides me with feedback).

Evaluation Results – Client Satisfaction



91% Felt comfortable with the community nurse using digital camera and computer



100% were satisfied with the quality of service provided to them and felt every effort had been made to respect their needs and feelings

Clients were also surveyed for satisfaction with the technology in the treatment of their wounds and their responses were very positive.

The community nurses felt that the use of the technology was well accepted by their clients, with 100% agreement that clients were comfortable with the computer and camera. 92% said that clients willingly participated with this new technology.

91% felt comfortable with the community nurse using the digital camera and computer and 9% were neutral.

82% of the clients liked to see the pictures of their wound and some clients requested printed copies.

100% of the clients were satisfied with the quality of service provided to them and felt that every effort was made to respect their needs, thoughts and feelings.

Evaluation Results – Specialist Feedback

- Improved access to specialist services → more accurate feedback. Three times as many patients can be seen with Picalere.
- Promoted staff knowledge and just in time learning.
- More efficient use of wound care products
 - Picalere supports IH initiative to standardize wound care products.
 - Resulting in decreased nursing visits
 - Improved healing time
 - Avoidance of costs associated with inappropriate use.

he only wound ostomy nurse providing service across the TCS health service area cited numerous benefits with the use of the Picalere program:

Improved access to specialist services was viewed as a significant benefit.

The use of the Picalere system allowed the specialist to view standardized assessment information as well as digital photos remotely. This saved time by avoiding lengthy telephone explanations describing the condition of a wound, as well as guaranteeing more accurate feedback. Reduced travel allowed the wound specialist to increase her number of consultations. She states that she can consult three times as many cases with Picalere than without, thereby making more effective use of scarce resources, and providing more equitable access to specialist consultation across the target population. Without Picalere it is anticipated an additional specialist would be required to keep up with the workload.

Promoting staff knowledge and providing just in time learning: All our community care nurses feel their skill level and self confidence in caring for complex wounds has improved with access to the Picalere project and direct access to a wound ostomy specialist.

More efficient use of wound care products: Interior Health had a standardized process in place prior to the introduction of Picalere. Picalere supported this standardization by ensuring the most effective product and treatment methods were used at the right time. Results from this can include decreased nursing visits, increased healing time and avoidance of costs associated with inappropriate use of products.

Examples of benefits

- Venous Compression for leg ulcers – visits reduced from 4 to 1 per week.
 - 9 patients without compression = 432 visits
 - 9 patients with compression = 108 visits
- VAC Therapy – from 8 weeks to heal and 3 visits per day to 4 weeks to heal and 3 visits per week.
 - 7 patients without VAC = 1176 visits
 - 7 patients with VAC = 84 visits

One example of this is with implementing venous compression as best practice. The Picalere program enabled the specialist to identify when this treatment was more appropriate and to have this initiated more consistently.

Venous leg ulcers drain a lot - nursing visits are usually required every 2 days without compression and once/week with compression. They take approximately 12-16 weeks to heal.

9 patients without compression = 432 visits (12 weeks x 4 visits/week x 9 patients)

9 patients with compression = 108 visits (12 weeks x 1 visit/week x 9 patients)

This gives us 324 visits to provide service to other patients in the region. In this case the benefits are decreased visits and eventual healing as opposed to decreased healing time.

Another example is the use of VAC therapy. This type of therapy requires that an expert be available to supervise. Picalere allowed for the wound ostomy specialist to provide remote supervision of this therapy. During the evaluation period there were 7 patients on VAC therapy.

Without VAC therapy – a typical wound will take 8 weeks to heal with 3 visits per day by the community nurse. For our 7 patients this is equivalent to 1,176 visits (8 weeks x 7 days x 3 visits/day x 7 patients)

With VAC therapy (supervised by the specialist) a typical wound takes 4 weeks to heal at 3 visits per week by the nurse. For our 7 patients this is 84 visits (4 weeks x 3 visits/week x 7 patients)

During this trial period healing time improved and nursing visits were reduced by over 1000 by the appropriate use of VAC therapy.

Other Benefits

- Ability to track and compare healing times and best practices
- Privacy and confidentiality of information (vs. emailing pictures).
- Surgical treatment avoidance
- Decrease # of admissions to acute care and Emergency room.
- Reduced length of stay at an acute care site.

The ability to track and compare healing times and best practices: Pixalere's reporting capabilities allow for the tracking of such things as product costs per wound type, healing time, number of visits needed per wound type, etc. This allows comparisons of wound types with outcomes to ensure the most cost effective treatment options are being utilized. Wendy believes this will prove very beneficial once all community nurses are using this in a consistent manner. (See Appendix B for examples).

The privacy and confidentiality of information: The Pixalere system is a secure system. During the pilot several facilities that do not have Pixalere would take digital photos and send them to the specialist via email. The use of e-mail for this purpose is not best practice as it violates FOI and patient security standards, and does not support sharing of patient information in a secure form with other healthcare professionals. Additionally, e-mail photos do not allow for wound comparison with previous images or tracking of product usage and specialist recommendations. It does not allow for reporting capabilities and there is no consistency from one nurse to another. This habit is not recommended and should not be encouraged. Pixalere implementation throughout IH is one way to stop this practice.

Soft benefits: it is believed that the use of Pixalere provides efficiencies and savings that are not easily measured. These include:

Surgical treatment avoidance: during the trial period a Revelstoke client was healed and a graft surgery was cancelled; a client in Kamloops community successfully healed two large ulcers and avoided surgery.

Decreased number of admissions to acute care and Emergency room as complex wounds can be treated and infections controlled in the community more effectively.

Reduced length of stay at an acute care facility and discharge to community care as the confidence exists that a wound care specialist will be overseeing complex wounds.

Recommendations

- Expand Tele-wound project to the rest of the Health Authority in phased approach:
- Create a Steering Committee with representation from across Interior Health.
- Project Management at two levels:
 - Clinical
 - Technical

A number of recommendations can be made from the pilot project to support the roll-out of Pixalere across Interior Health:

Create a Steering Committee with representation from across Interior Health. This committee would ensure commitment to the project and would assist in the removal of barriers.

Project management should be addressed at 2 levels – clinical and technical. A wound specialist familiar with the product is required half-time to work on the project to ensure changes to clinical processes occur to support tele-wound. Policy and procedure changes should be documented. An experienced project manager should also be assigned half-time to manage the rollout across Interior Health, using strong project management.

Create a clinical working group with representation of the wound specialists and community nurses from across Interior Health. This working group would be involved in decisions regarding the implementation and use of Pixalere to ensure the system supports their practice.

Use a phased approach. The working group and project leaders, with support from the steering committee, should develop a project charter detailing how this project can be rolled out across Interior Health using a phased approach.

Conclusions

- Number of wound specialists is extremely limited in Interior Health.
- Acute, Residential, Ambulatory and Community.
- Unable to see all clients with complex wounds – rural and remote areas.
- Wounds heal faster when a specialist is involved.
- Wounds are costly to treat.
- It is imperative to make the best use of available resources.

The number of wound ostomy specialists is extremely limited in Interior Health. These professionals provide consultations to acute care, residential, ambulatory, and community based clients. They are unable to see all clients with complex wound care needs, particularly in rural and remote areas. Wounds heal faster when a specialist is involved in their treatment; additionally, wounds are costly to treat. Therefore, it is imperative to make the best use of the resources available.

Conclusions... cont.

- Key Strengths of the Telewound Project:
 - Clients acceptance
 - High degree of staff satisfaction
 - Efficient use of resources
 - Increased access to the wound ostomy specialist
 - Positive impact on quality of care for clients

The evaluation of this pilot project indicates that the use of the PixaLere system contributes to using resources more efficiently. The evaluation showed the following key strengths of the PixaLere project:

Clients acceptance of this approach to wound care service delivery

A high degree of staff satisfaction using PixaLere as a tool to improve the quality of wound management in the community

Efficient use of resources, allowing for increased access to the wound care specialist

Efficient use of resources, supporting best practices of the use of products

Summary

- Interior Health encountered challenges in wound management.
- A pilot project took place where a Telehealth technology was explored.
- The evaluation yielded positive results
- An expansion of the project has been approved to include the whole Health Authority.