

Early results from a technology-enabled integrated diabetes foot care service

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Background

- National Institute for Clinical Excellence (NICE) guidelines suggest that all patients with diabetes and active foot ulcers are referred to the multidisciplinary diabetic foot team (MDFT) within 24 hours of the diagnosis of an ulcer.
- With more widespread awareness of these guidelines, especially following the successful "Putting Feet First" campaigns of Diabetes UK, the number of patients being seen in our secondary care based MDFT clinic is rising and, like many services, is now struggling with capacity.
- The number of new referrals to this service has almost trebled over the last 5-6 years (Figure 1), whilst the number of follow-up appointments has doubled.
- The continued rise in the number of patients seen in this service was thought to be unsustainable, and was leading to a poor patient experience with long waiting times in clinic.
- For this reason a change in the organisation of the service was sought, with an emphasis on patients being seen closer to home, but without any loss of quality of service.

Aim

- To describe our experience with developing and delivering an integrated diabetes foot service, using a new web-enabled digital wound imaging and 3D measurement technology (Silhouette®, ARANZ Medical Ltd).

Figure 1

New patient appointments

Acute Out-patient Foot Clinic - New Appointments



Figure 2

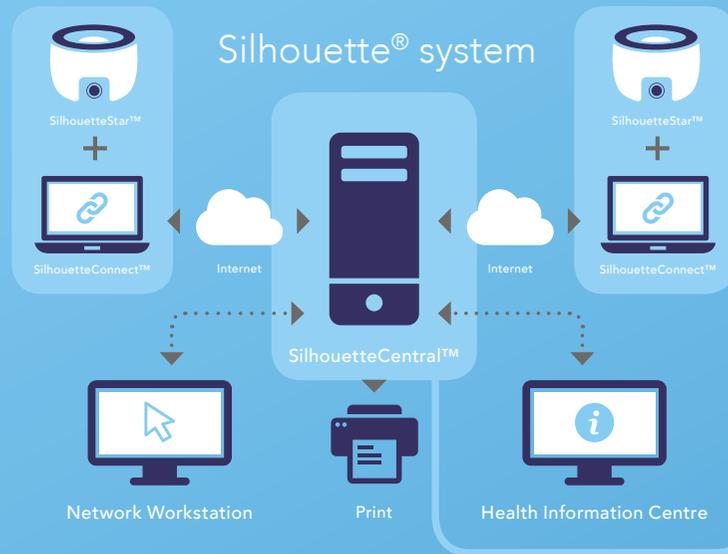
Silhouette® camera



Digital DFU monitoring in Southern Derbyshire

- Digital Diabetic Foot Ulcer (DFU) monitoring has been established with the Silhouette® system, a web-enabled digital wound monitoring, reporting and communication solution (Figures 2-4).
- Allows patients to be seen at multiple sites, with objective data shared across pathway for continued tracking of ulcer size and progress review.
- Enables staff at different sites to simultaneously review ulcer status and offer advice on management.
- Essentially it brings MDFT care closer to the patient.
- 5 cameras are currently in use in Southern Derbyshire; 2 in the acute Trust and 3 in community settings.
- Once stable, patients are seen in community clinics by specialist podiatrists with distant monitoring support from consultants.
- Rapid escalation of patients back to the MDFT, if necessary, is facilitated by the availability of data and reports across all settings and integration of the system with the Trust electronic medical record.

Figure 3

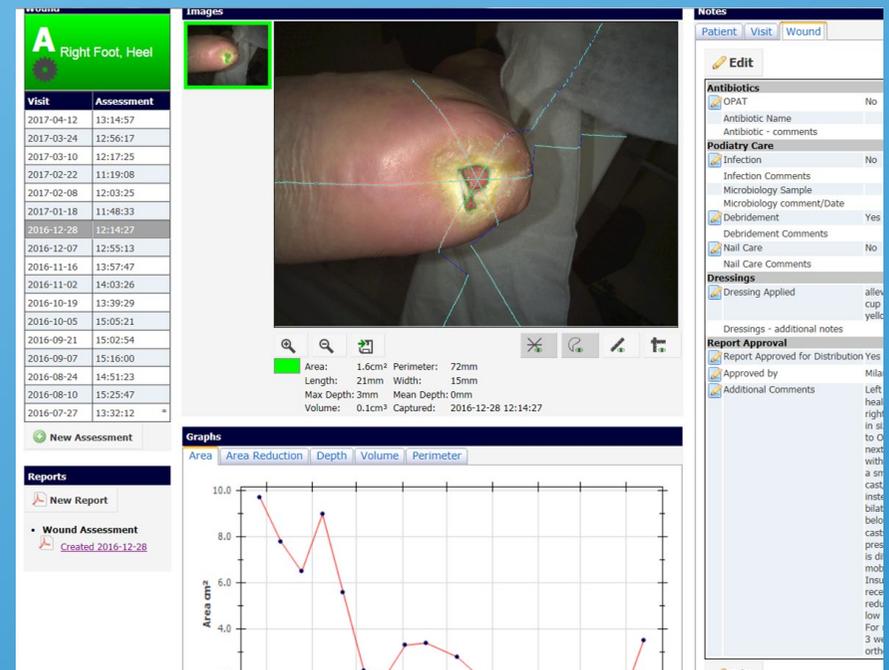


SilhouetteStar™ + SilhouetteConnect™ Point-of-care data capture system. Data uploaded to SilhouetteCentral™.

SilhouetteCentral™ SQL database for secure, data storage, data management, analysis, reporting and system administration.

Data Integration Ready; using SilhouetteLink™ data integration engine, and HL7 and DICOM data exchange standards.

Figure 4
Wound information database



Results

- 18 members of staff are now fully trained in the use of the system.
- In the first quarter (September-December 2016) 101 patients were seen in a community setting who would otherwise have been seen at the acute Trust (Figure 5),
- With associated tariff cost savings for the Clinical Commissioning Group (CCG) across integrated pathway (Figure 6).
- There have been no adverse events.
- Patient feedback has been very positive (Figure 7).

Figure 5
Community appointments

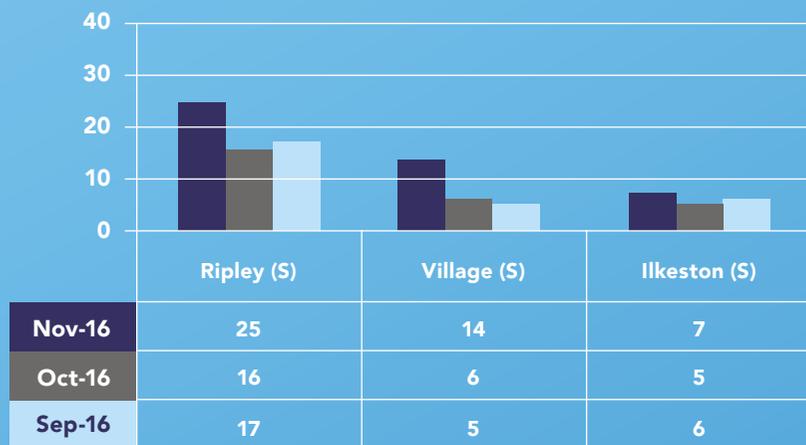


Figure 6
Savings in the First Quarter



Figure 7
Patient feedback

"Being able to have my check-ups at my local clinic is great. I have less distance to travel and it makes getting to appointments much easier.

The process of being scanned using Silhouette is also quick and I can see how my ulcer is progressing at each appointment..."

- DH, Ripley

"We only live down the road from the clinic and it saves so much time for us..." **- AS, Kilburn**

Conclusion

- **This system enables accurate analysis of wound healing and sharing of images and data across care settings.**
- **Remote monitoring of wounds with rapid escalation and de-escalation of care means that patients can be seen closer to home and without any deterioration in their condition.**
- **Evaluation in progress to assess health economic impact of new model of care.**

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Early results from a technology-enabled integrated diabetes foot service, F.Game et al.
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