

# Accelerating Patient Transitions From Hospital to Home with Single Use NPWT: A Discharge Pathway

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## Introduction

- The incidence of wounds and related treatment costs have been increasing in the United Kingdom over the last decade.<sup>1</sup>
- The increased need for inpatient wound care is problematic given that 19 out of 20 National Health Service (NHS) hospital beds are currently occupied,<sup>2</sup> and growing wait lists exist for elective surgeries.<sup>3</sup>

## Purpose

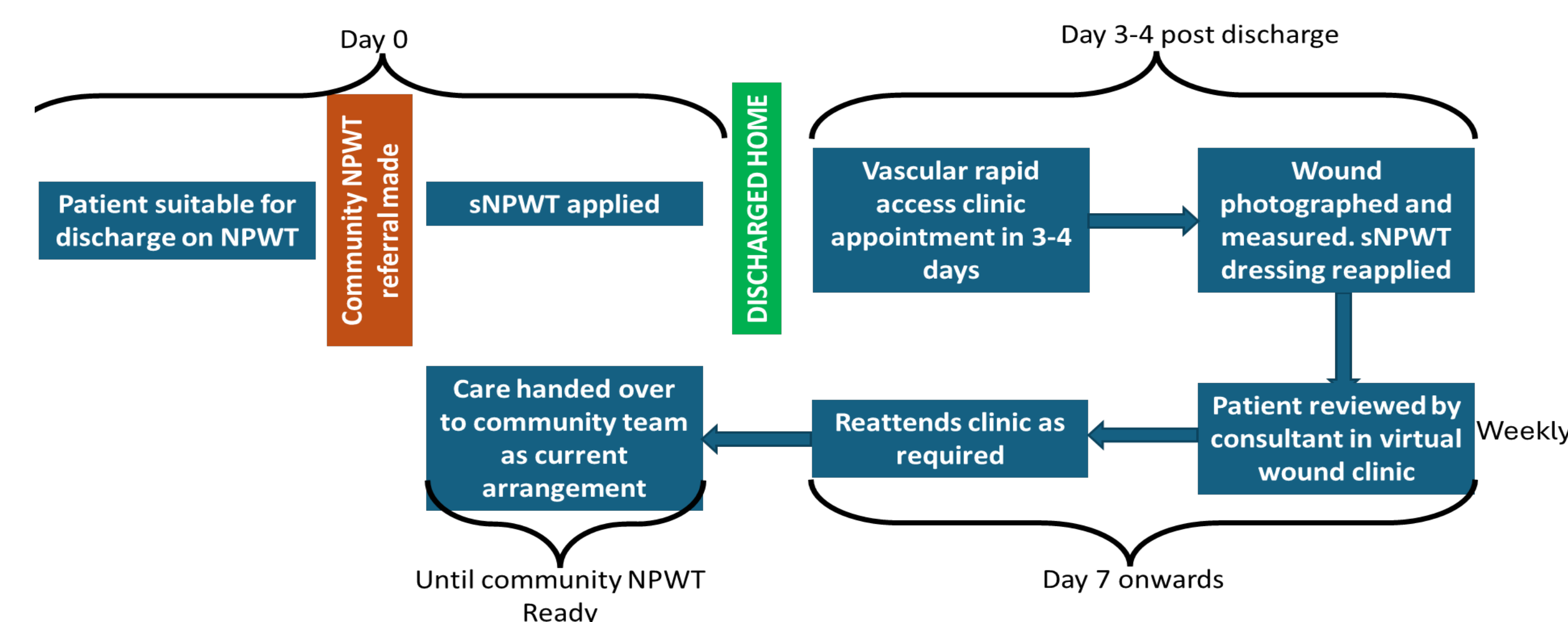
- We aim to illustrate that single use negative pressure wound therapy (sNPWT) can serve as a bridge between hospital and community NPWT, overcoming complexities in wound management step-down strategies which lead to extended hospital length of stay (LOS) for patients ready for discharge, needing NPWT.

## Methods

- Research has shown that treatment with NPWT outside the hospital is safe and cost-effective.<sup>4</sup>
- In addition, NPWT use in community settings may allow patients to be discharged from the hospital sooner, return to the comfort of their own home, and resume some of their normal everyday activities.<sup>5</sup>
- In this instance, a discharge pathway utilizing sNPWT was implemented and the feasibility, effectiveness, and potential cost savings assessed, with an aim of resuming ambulation and a more normal level of activity and function.

## Methods (Cont'd)

- Five patients with open lower limb wounds were treated at an NHS facility using a sNPWT discharge pathway.
- Wounds were assessed before and after sNPWT use.
- Differences in average inpatient LOS and costs were calculated and compared to patients who remained hospitalized until community NPWT was available.
- The discharge pathway for accelerating transitions for patients on NPWT from hospital to home is depicted in **Figure 1**.



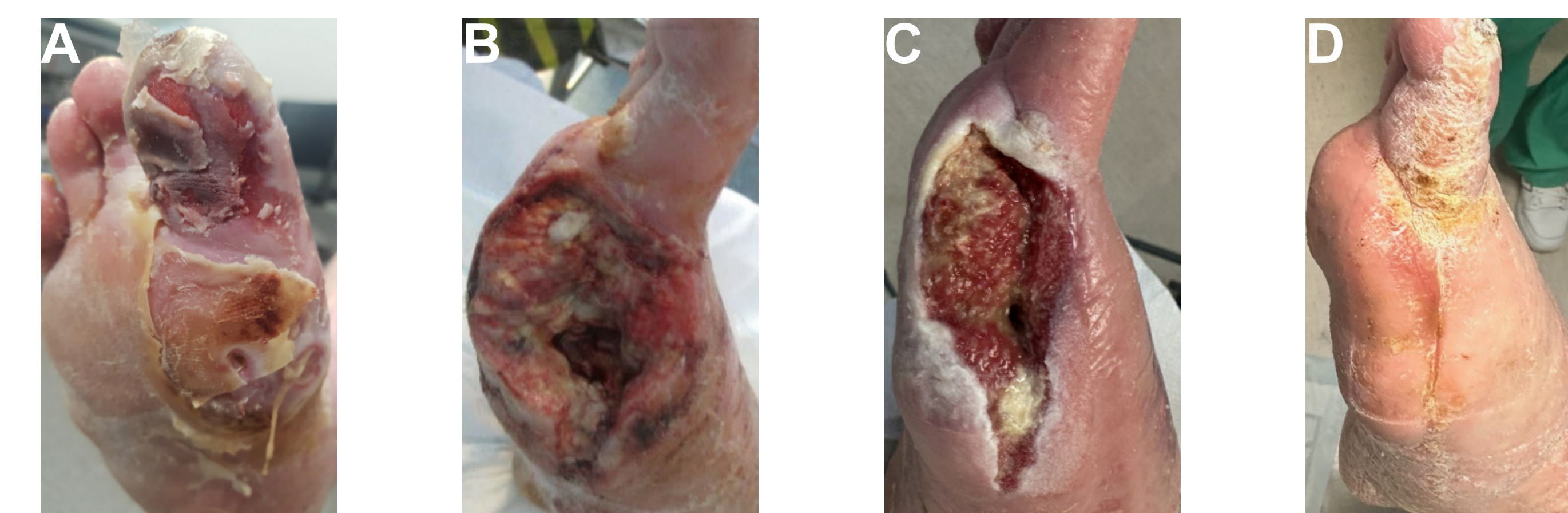
**Figure 1.** sNPWT discharge pathway.

## Results

- A key component of the discharge pathway is the sNPWT\* device.
- The sNPWT discharge pathway was well tolerated by patients and results in good clinical outcomes.
- Representative cases are shown in **Figures 2-3**.

## Results (Cont'd)

**Right Hallux infection.** A 57-year-old male with a history of type 1 diabetes mellitus, retinopathy, and neuropathy presented with a deteriorating right hallux infection. Intravenous antibiotics were initiated and an amputation performed. NPWT was applied for the inpatient stay and switch to sNPWT upon discharge. After 14 days, the sNPWT was discontinued for a community health NPWT unit.



**Figure 2.** Right hallux infection. A. At presentation; B. After amputation; C. Wound after 14 days of sNPWT; D. Wound fully healed 3 months after discharge from hospital.

**Diabetic foot infection.** A 72-year-old male with type 2 diabetes mellitus, hypertension, and atrial fibrillation presented with a left diabetic foot infection of the 4th and 5th toes and spreading cellulitis over the dorsum. Intravenous antibiotics were initiated. Four days, later the patient was discharged home with sNPWT. After 14 days, the patient was transitioned to a community health NPWT unit.



**Figure 3.** Diabetic foot infection. A. Wound after amputation of the 4th and 5th toes; B. Wound after 14 days of sNPWT; C. Wound 5 months after amputation.

## Results (Cont'd)

- The average LOS for patients has decreased by approximately **20.2 days** following implementation of the discharge pathway compared to patients who did not receive sNPWT.
- The cost of one night of inpatient stay within a central London Vascular Hub is approximately **£612**.
- Use of the sNPWT pathway could save approximately **£12,2350 per patient** through a reduction in bed days alone.

## Conclusions

- Preliminary findings indicate use of a sNPWT discharge pathway is feasible and may results in reduced LOS and associated costs while improving patient care.
- Additional studies are needed to understand the impact on wound management, patient outcomes, and overall care costs.

## References

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