

# Offloading Devices for DFU Patients: A Quality Improvement Initiative

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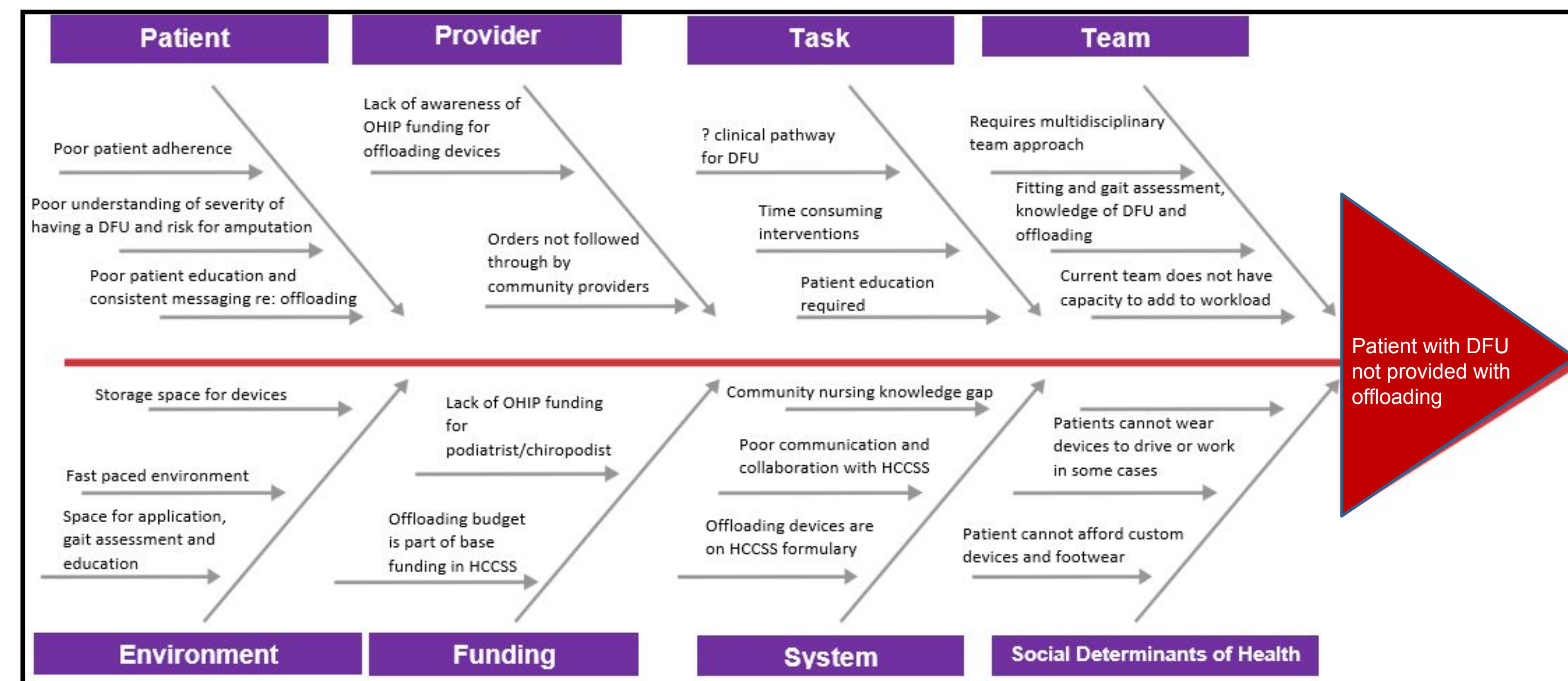
**AIM Statement:** By March 2023, the integration of non-custom offloading devices for patients that have plantar forefoot diabetic foot ulcers will increase from 0-30% in the out-patient vascular clinic

## PROBLEM DEFINITION

- Diabetic Foot Ulcers (DFU) lead to ~2000 amputations every year in Ontario
- 85% of major amputations are preventable with best practices which includes: vascular assessment, glucose management, specialized wound care, and **offloading** (Figure 1)
- We aimed to integrate offloading devices provided by home and community care support services (HCCSS) into the vascular clinic for patients with forefoot DFU

## ROOT CAUSE ANALYSIS

Figure 1: Fishbone Diagram



- Stakeholder engagement included the project team, HCCSS team members and vascular clinic team members
- Root causes were identified (figure 1) and solutions were categorized (figure 2)
- Plan, do, study, act cycle 1 began Jan 30, 2023 and cycle 2 began Feb 25, 2023 (figure 3)

Figure 2: PICK chart

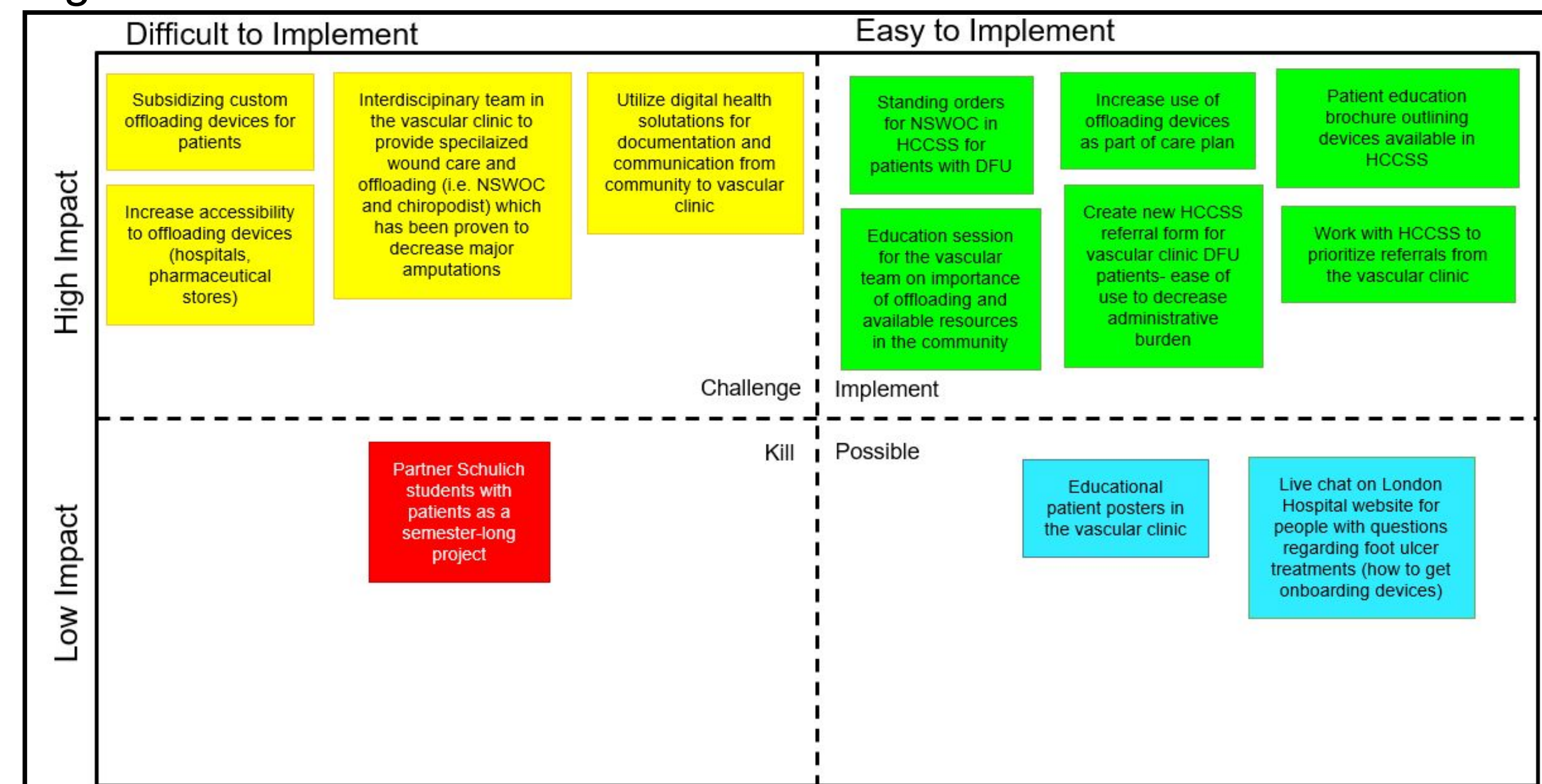
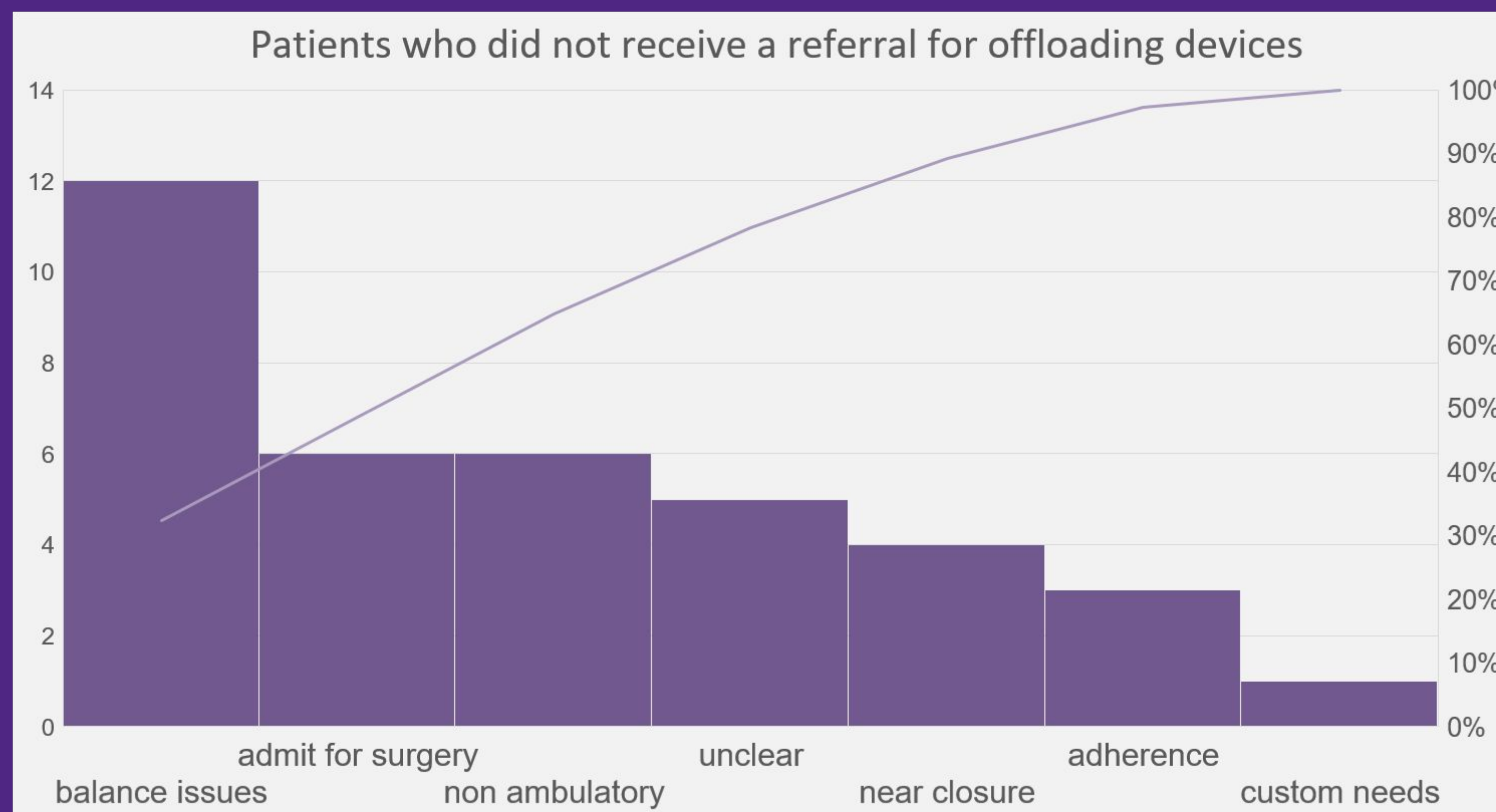


Figure 5. A diabetic foot ulcer and potential offloading devices

Figure 6: Pareto chart utilizing data from PDSA cycles

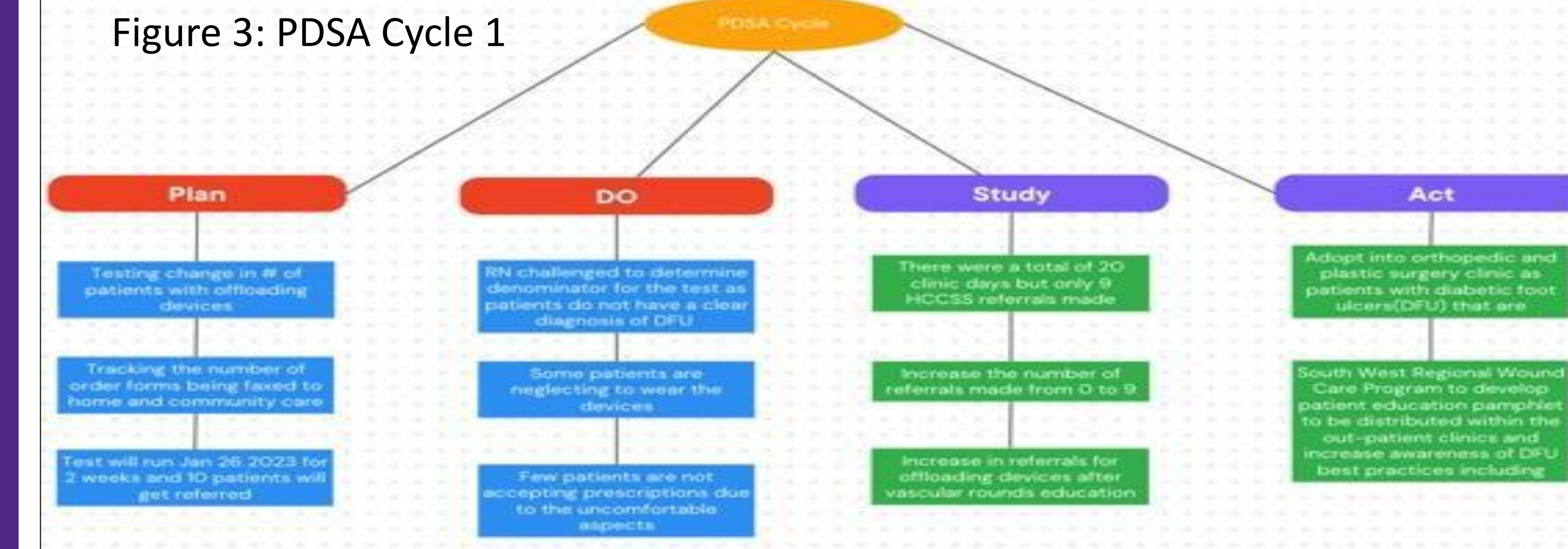


## KEY LEARNINGS

- We were able to increase integration of offloading devices into the vascular clinic from 0-23%
- More patients than expected arrive at the vascular clinic with offloading sandals since they are provided post-operatively and many patients have minor amputations
- Vascular team was unaware of available offloading devices through HCCSS
- Many patients with DFU are referred to orthopedic clinic for ongoing management when vascular surgical intervention is not required
- Patient are often not referred for offloading devices due to risk for falls; this highlights the need of an interdisciplinary team for DFU management which includes nursing for specialized wound management, physiotherapy for gait and balance assessment, and chiropody for custom offloading devices as outlined in multiple evidence-based best practice resources

## IMPLEMENTATION

Figure 3: PDSA Cycle 1



## MEASUREMENT & RESULTS

Figure 4: Run chart for PDSA cycles 1 and 2

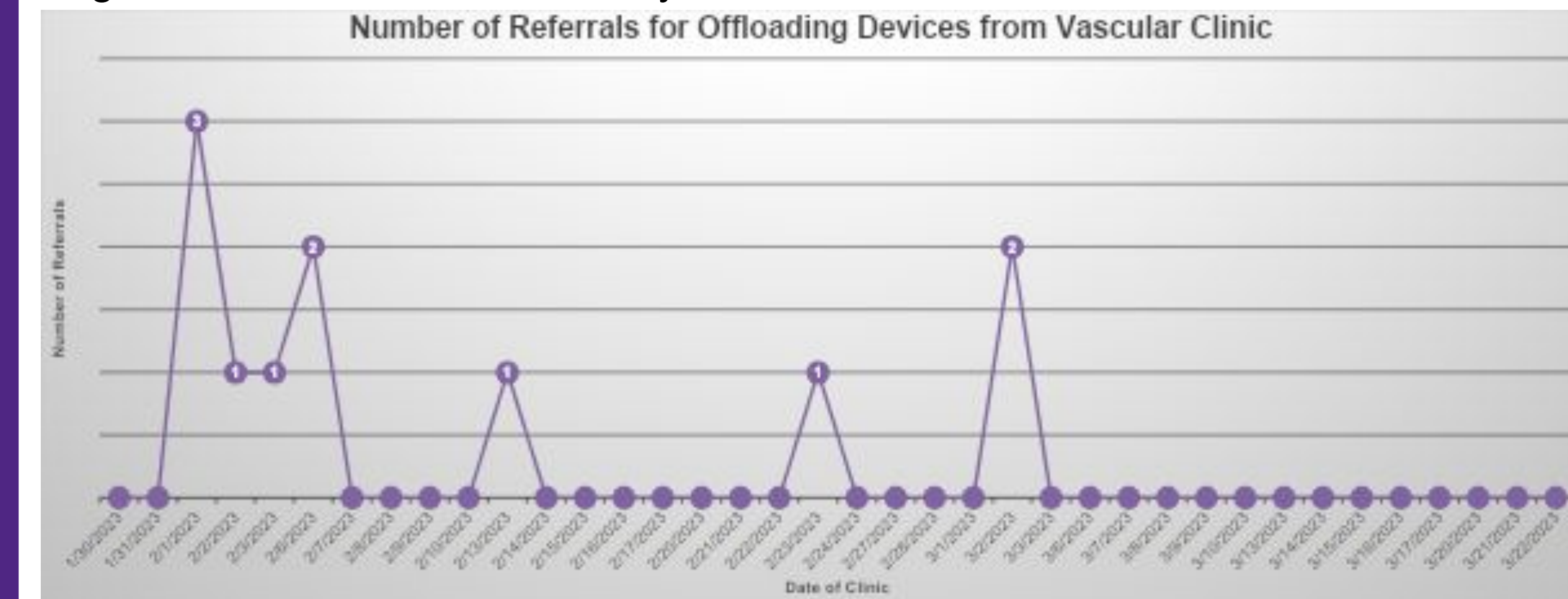


Table 1: PDSA cycle data

PDSA Cycle	Patient already in offloading when visiting the clinic	Patients requiring offloading	Number of referrals sent for offloading	Percent of integration
Cycle 1	25	30	9	30%
Cycle 2	7	18	2	11%
Total	32	48	11	23%

## SUSTAINABILITY

- Brenda Henry, RN for the vascular clinic will continue to promote the ordering of offloading devices as appropriate
- HCCSS wound care team will scale and spread to out-patient orthopedic clinic and build further patient resources