



Sustainability in Orthotics:

Digital Shape Capture for Ankle Foot Orthoses



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Introduction

Within the Orthotic Department, shape capture for ankle-foot-orthoses (AFOs) can be done via casting or scanning. Until now, scanning has been used less frequently throughout the team.

What is the problem we are trying to solve?

Casted AFOs must travel between hospital sites and then to manufacturers via courier, increasing risk of loss, delays in treatment and carbon emissions. Deltacast, used in casting, is costly and non-recyclable. Delivery delays can impact inpatient care, discharge planning, and bed availability. Casts aren't repeatable, often leading to poorer outcomes—whereas digital scans are saved, editable, and repeatable, improving efficiency and patient care.

Drivers for change: SUSTAINABILITY – REPEATABILITY - EFFICIENCY

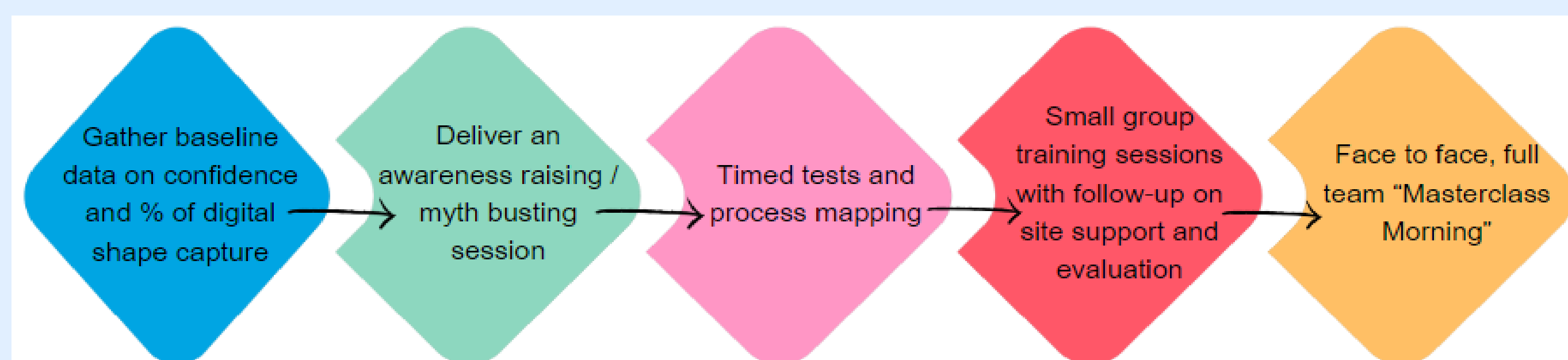
Aim

95% of AFOs ordered by NHSGGC Orthotic Service to be sent digitally for manufacture by the end of April 2024, which is aligned to NHSGGC's sustainability policy, and sustainability and value programme.

Alignment with NHSGGC Objectives:

- **Better Care:** improvement in quality of treatment for those using our service.
- **Better Health:** improvement in timeliness of provision of care, to aid rehab and improve outcomes for those using our service.
- **Better Value:** less waste, less transport costs, financial savings from less courier and raw material costs, improved sustainability and alignment with the Board's sustainability and value programme.
- **Better Workplace:** investment in workforce training and development, improving confidence and skills within the team.

Method



- An iterative approach was taken to training and confidence building, with continued evaluation and support networks set up.
- "Even better ifs" were addressed along the way.
- Team introduced to the project aims and timeline prior to starting.
- Safe space provided to alleviate worries and perceived negatives of scanning.
- Robust training package developed including manuals and demonstration videos.
- Production of a case study shared on Prosthetists and Orthotists (P&O) Day 2024 to demonstrate the impact of scanning for our patients.

Acknowledgements

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The entire NHSGGC Orthotics Clinical Team for all their hard work and dedication throughout this project.

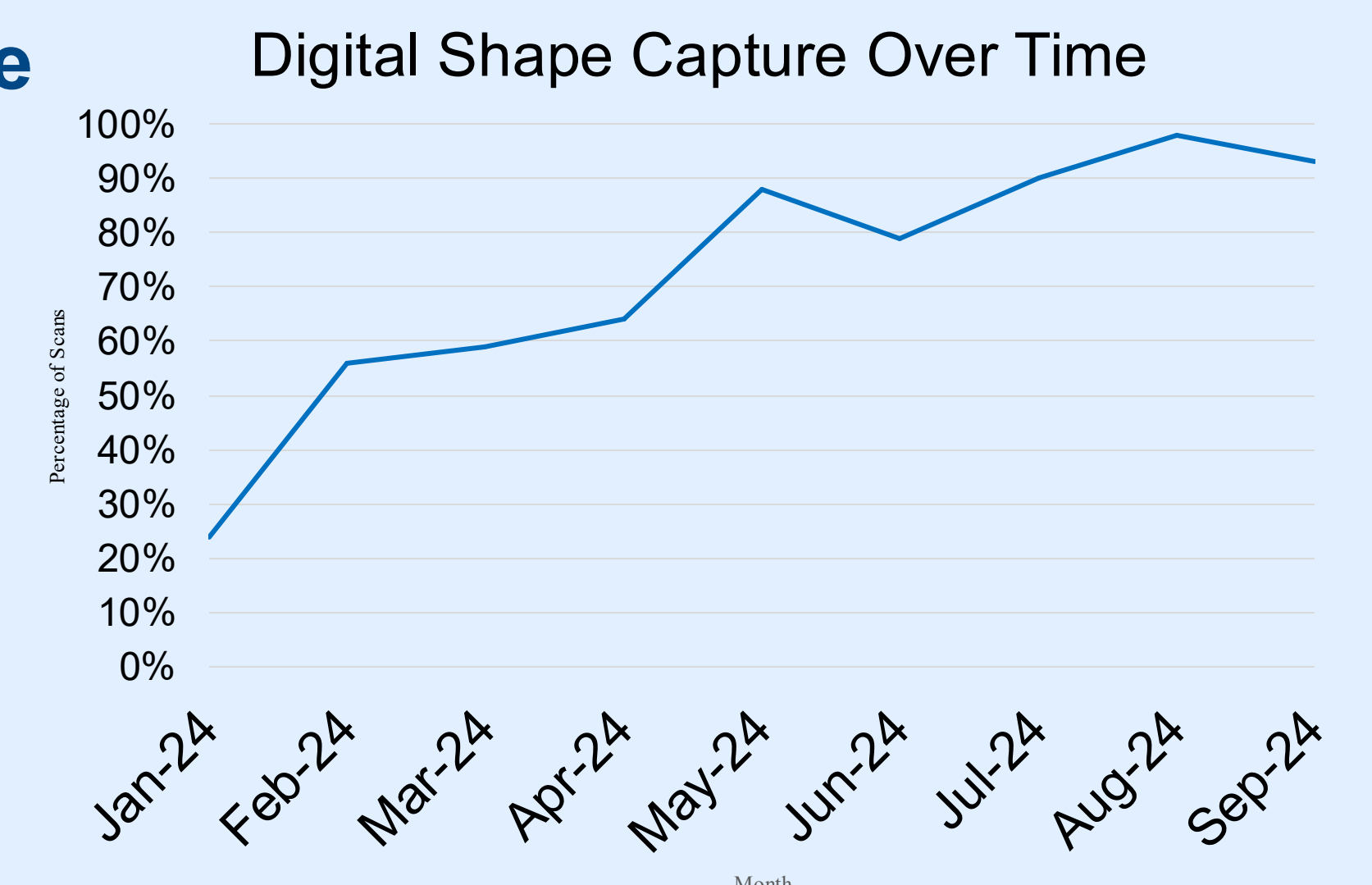


Results

1. Digital Shape Capture

Data was monitored over the course of the project, and the percentage of all custom AFOs which were sent as scans was recorded.

The numbers of AFOs being sent digitally gradually increased over time.



2. Confidence Levels

- Evaluation was undertaken after each small group training session, with learning taken forward.
- Rapid response support channels set up and varying formats of resources provided
- Staff overall responded well and felt supported through the change
 - "I feel well trained."
 - "I was given autonomy to try while having support there."
 - "The sessions were great; I left feeling optimistic."

3. Impact on Patient Experience

In collaboration with the NHSGGC Paediatric Orthotic Service, we developed a video which was shared on P&O Day 2024, where Mathew told us the difference in his experience of casting and scanning.

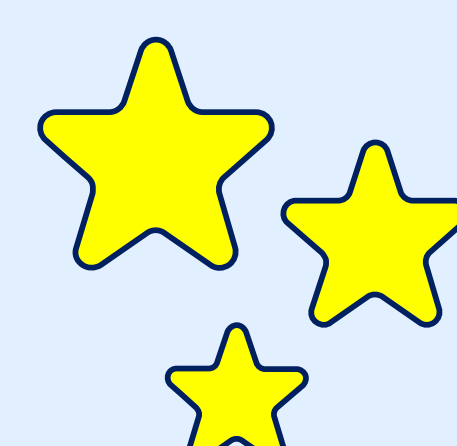
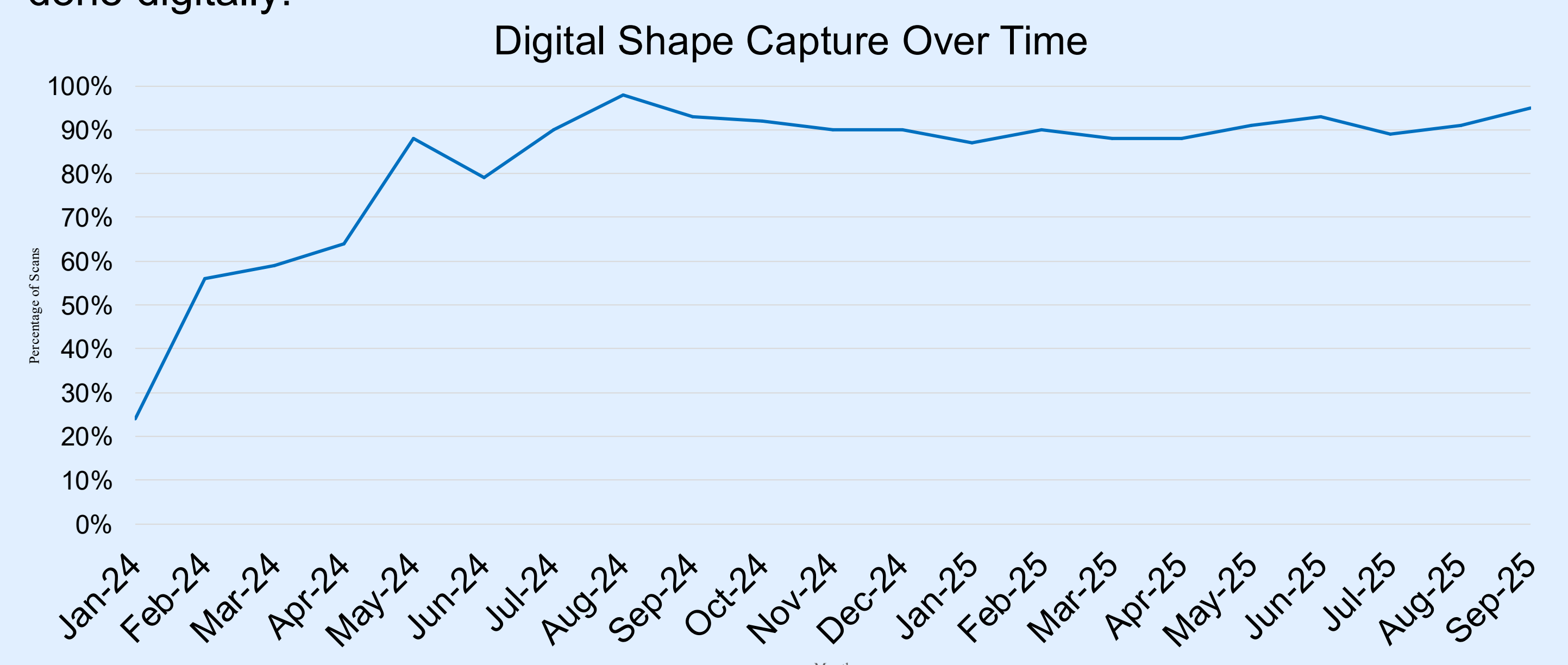


Mathew's video can be accessed via the QR code.



Sustainable and Sustained Change – Long Term Picture

Four months after the completion of the roll out (August 2024), digital shape capture reached 98%. In the year following this, to September 2025, a sustained change was achieved with at least 88% of shape capture being done digitally:



- The projected cost savings per year with this change of practice being sustained is approximately £26,000.
- Staff confidence 12 months after roll-out rated 4.4/5.