

## Better Training Better Care (BTBC) Inspire Improvement Project Evaluation Report

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This report is designed to capture your project in your own words. Each section should be completed in full, with appendices attached where necessary.

When completing the report, please adhere to the points below:

- Ensure that you complete each field provided.
  - Ensure your answers are concise. Although there is no specific word count for each section, we are looking only for the relevant information to support wider adoption of your project. This report is intended to capture the fundamentals and the key outcomes of your project and should be succinct and easy to read, using plain English.
  - Any toolkits, 'how to' guides or other resources that you feel are key to support the delivery of your project should be attached as appendices.
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### Title

Please insert the title of your pilot and if applicable, a strapline to sum up the project in one sentence e.g. Enhanced education in handover with supporting e-solution  
*Improving trainee skills and patient safety*

Micro-Surgery Training At Residence (mSTAR): Increasing accessibility to microsurgery training through tablet- based devices

## 4.1 Overall achievements and critical success factors

- What have been your greatest achievements and why?
- What have been the critical success factors for enabling these achievements?

The results from the pilot project have led to much interest in the microsurgery community.

I was very fortunate to present our preliminary findings at an internationally recognised, prestigious meeting held annually by European Association of Plastic & Reconstructive Surgeons in Ischia, Italy 2014.

The abstract was peer reviewed and accepted by Academics and Senior surgeons from across the globe. Our presentation generated much discussion and interest amongst the surgeons in the group. There was great interest in collaboration and future work with the department in the UK and world-wide.

From this meeting, we have met with 2 other plastic surgery units in the UK (Cambridge and Glasgow), and we are working with the units to set up a similar facility for microsurgery training in plastics.

## 4.2 Delivered outcomes

What outcomes has the project delivered for the following:

- For trainees
- For trainers
- For patients
- Across the wider multidisciplinary team
- That provide value for money

Please provide headline key findings.

### For trainees

Home and lab-based training groups both demonstrated statistically significant improvement between baseline and post-training performances.

We measured various objective parameters, mainly; time taken to complete task. We found statistically significant difference between the two training groups ( $P=0.023$ ). Suggesting Tablet training group were quicker cohort to finish. Evidence supports time to be an important parameter to demonstrate efficiency of movement thus level

of skill.

We also used a validated subjective measure, SAMS tool (structured assessment of microsurgery skill, but we noted no statistically significant difference between the two group ( $p=0.052$ ). This means our experts, upon video assessment of participant's performance, noted no difference. However, the analysis is approaching near significance. We will be continuing to collect more data to expand our sample size, which may possibly show tablet group training outperforming the lab based trainees.

Furthermore, we also observed consistent improvement of skills in trainees using a tablet device compared to lab training, which displayed a wider level of skills attained. This means more of the trainees in the tablet-trained group were able to achieve competencies compared to lab training group in the time period.

In conclusion, our data supports the use of tablet training in early phases of microsurgery skills to be as efficacious, if not better, than lab training.

With the complete data now available, the next plan is to share the low cost curriculum with our colleagues from UK, and work with other specialties so that their trainees may also benefit

NB:  $P<0.05$  is considered to be a statistically significant result.

## For trainers

The tablet devices are not the perfect models for training. However, the versatility of the device makes it suitable adjunct to training in the modern NHS.

Our pilot data shows comparable results, meaning trainees and trainers are no longer confined to a specific location or time commitment, as equal results can be achieved with either methods.

Modern tablets offer recording facilities, thus the trainer is able to view, assess and provide feedback on trainees practice sessions, at any time, anywhere. Thus, making training easier and accessible for both.

Furthermore, the opportunity of video recordings can be uploaded and provided as evidence in trainee's portfolio.

## For patients

The aim of the project was to improve the quality of training. Better training, better care.

Considering the current political direction of consultant led care, trainees will be able to develop and maintain skills without compromising patient care.

## Across the wider MDT

This pilot was conducted in microsurgery procedures related to plastic surgery. However, we wish to widen the dissemination of our pilot study to other specialist fields that operate using surgical microscopes.

This project focused primarily on the technical development of microsurgical skills, thus offers little benefit to the allied healthcare professionals. Future work will be needed in the development of non-technical skills.

## That provide value for money

Our primary goal driving this pilot project was to find alternative training modalities to lower the cost of simulation training.

The cost of one basic surgical lab microscope starts from £9,999, with additional costs of consumables, staffing, cleaning, and rent of space, the actual cost is much higher.

Using a basic tablet device (iPAD) and camera function, with a basic stand the cost is £439 for a basic tablet. We can develop basic microsurgery skills in 22 trainees for the price of one microscope. Furthermore, iPADS offer multi functionality in healthcare settings with various medical apps that can aid clinicians. With recent announcement of next generation tablets, with superior optics, and development of 3D technology, we anticipate a wider accessibility and adoption of tablet devices in healthcare setting.

Our data from this pilot study is limited to the initial phases of the learning curve, when the trainee is first learning this new skill, and thus is arguably the highest risk to patient safety. More data is being looked at now, to study the effects of training on longer periods of use, and weather there is a skills cap using the tablet devices.