

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

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

Dr Toolbox:

Enabling trainees, saving time; enhancing junior doctors' efficiency by creating hospital specific guides

Introduction

The introduction should summarise the background to the project intervention, what it set out to achieve and why.

1. Background

1.1 Rationale and drivers

- What was the rationale for choosing the project?
- What was the situation before the project was initiated?
- What were the local drivers / contextual factors?
- What problems were you trying to solve by implementing the project?

As trainees we often found ourselves and colleagues frustrated by not being able to quickly find information for administrative tasks like how to make referrals, book investigations and contact other professionals in their hospital. In addition much of the knowledge we gained throughout the year was lost when we moved to a different firm or another hospital. This inspired us to start Dr Toolbox, an initiative that tackles the unmet need for retaining such knowledge, in order to facilitate better patient care during periods of junior doctor transition.

Patient safety is compromised, time is wasted and stress is incurred if these tasks are done incorrectly. Spending less time on these tasks, would mean more time available on items relevant to the post-graduate curriculum and our learning.

In comparison to traditional paper based guides, the Toolbox is uniquely available through intranet, internet and smart phone platforms. As it is in 'wiki' format, simple updates are possible in minutes. They are made by 'editors'; trainees at individual trusts who build on the toolbox as part of their own safety project. Attending teaching is contingent on completing work safely and efficiently in time. Being more efficient at arranging investigations and referrals allows the trainee more time both at the bedside with patients and achieving competencies.

Having a resource standardised between hospitals and targeted at all doctors means that hospital rotations will be less stressful and tacit knowledge can accumulate over time. This will lead to gained productivity which will create more opportunities to for trainee development outside of completion of jobs. The Toolbox was already in use in around 20 trusts at time of collaborating with Health Education England (HEE) and has official endorsement from Sir Bruce Keogh, the Medical Director of the NHS.

2. Approach and engagement

2.1 Project development

- How was the project developed?
- What was the approach taken for delivering the training intervention(s)?
- Who was involved in its development and implementation?
- What were the aims and objectives of the project?

Dr Toolbox is a website run by junior doctors, providing specific, up-to-date information relevant to other junior doctors within the trust. Whilst providing day-to-day information, it also contains a "survival guide" for each hospital.

The project was developed in partnership with HEE and local stakeholders at the trusts that use Dr Toolbox. With the support of HEE we aimed to make the Dr Toolbox website more accessible to hospital doctors by developing a dedicated smartphone application to be downloaded and used by junior doctors to further enhance accessibility to the right information at the right time.

The overarching objectives of the Dr Toolbox website and mobile application are:

- To improve patient safety by facilitating a better handover between rotating doctors
- To improve the efficiency (and reduce the stress) of hospital doctors, by providing specific, local information on how to get things done
- To boost the morale of trainees by facilitating quality improvement projects
- To be environmentally sustainable by reducing the need for paper based induction documentation

As such, we hoped to achieve these by delivering a personal data assistant-compatible application (app) for full use by junior doctors.

2.2 Engagement

- Who did you need to engage in the project – for example: trainees, trainers, consultants, patients, executive Board members?
- What was the level of lay and patient involvement?
- Did you get support from an academic partner to develop the evaluation and outcome measures?

Such a project involved multi level stakeholder cooperation, with input from junior doctors, local medical directors and foundation programme leads, app developers, legal advisors and HEE experts.

The technical nature of the 'app' meant that we approached non-medical specialist app developers. To ensure that the app was user friendly we had to participate in several PDA cycles to ensure a user friendly, relevant application.

2.3 Project management and governance

- How was the project managed and implemented? i.e. what governance, project management structures and processes were put in place?

The Dr Toolbox team consists of trainee junior doctors and we managed the project within the confines of our own time commitments.

HEE set us useful incremental deadlines for reporting, financial accounting, and advertising/publicity feedback, thus enabling continual audit/appraisal of our progress. We were also encouraged to analyse project risk via a risk management rating matrix to help plan contingencies.

3. Resources

3.1 Funding

- What funding did you bid for as part of your application and how much were you awarded?
- What were the overall financial resources required to deliver your project? Please include the amount of trust funding required in addition to the BTBC funding if applicable
- What was the final budget amount at the end of your project? (Please include the detailed funding schedule as an appendix.)

We bid for, and received, £15,280 in funding. The project cost less than anticipated and the cost breakdown was as follows:

- Programmer to adjust Dr Toolbox site and develop app: £1,560.
- App to develop a stand-alone app. Based on programmer PDA app synchronizing. Potential for HTML5 development for offline mobile access. Based on competitive quotes from three separate app developers: £10,800
- Legal support for disclaimer and user agreements (one off) £1,600
- One day seminar to engage junior doctors (one off) £820
- Printing paper advertising e.g. posters/business cards (one off) £500

3.2 Staffing

- What were the human resources required to deliver your project?

Management- Dr Toolbox personnel (Currently also doctors in training)

- Support- HEE representatives, Sonia Panchal.
- Legal- legal support (paid for from project budget)
- Extra human resources in form of trust-specific junior doctors and 'toolbox champions' (senior clinical leads willing to adopt leadership roles in advocating Dr Toolbox).

3.3 Other key resources

- Did you require any IT equipment or other types of equipment / specialist input?
- Did you require any specialist medical devices or materials?

IT specialist input from app developer. Many trusts required liaison with their ICT departments for to enhance local adoptability.

4. Achievements and outcomes

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?

We have achieved what we set out to achieve with HEE by creating and delivering the app.

The 2014 HSJ Value in Healthcare Award (Value and Improvement in Communication). It was great to have national recognition for our work with HEE- especially in such an inspiring context!

Foundation schools leadership programmes; represent the next step in Dr Toolbox's integration into the official administrative structure in the Thames deaneries.

The success of the Dr Toolbox website (www.dr-toolbox.com) has been synergistic with the success of the app. The website currently has:

- 65 hospitals
- 35 sites established, 30 new
- 200 registered editors
- 3 Leadership Programmes (NW Thames (established), South Thames (new) NCEL (new)).

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

In June 2013 the Academy of Medical Royal Colleges restated the importance of induction in their publication [Recommendations for safe trainee changeover](#) "It is very important that the newly arrived doctor gets a comprehensive introduction to the clinical environment they will be working in." Instead of being given a stack of paper for induction, the site provides an innovative IT solution for the organisation.

Our sites follow a similar template, allowing easy familiarisation between hospitals. The Toolbox can be accessed via intranet, internet or offline app. A desktop link has been placed on hospital computers that further improve access.

- Multiple ways of accessing Dr Toolbox- app, intranet, internet
- More efficient administrative practice
- More time to complete personal competencies, goals. Hopefully also enhanced patient care
- A tried and tested way of sharing useful information with other trainees and facilitating quality improvement or patient safety projects

For trainers

- More efficient trainees, hopefully more engaged
- Smoother administrative workings 'at the coalface'
- Dr Toolbox template provides an educational tool for junior doctors to educate themselves about hospital services in a self-directed manner
- Inspired trainees, hopefully more willing to engage with quality improvement.

For patients

- Jobs get done quicker and better.
- Safer care by better quality referrals

Across the wider MDT

- Dr Toolbox provides an opportunity for MDT linking. It includes an 'MDT' tab which provides a link and portal to wider hospital teams and services.
- The app can also be used by members of the wider MDT and has been used to help deliver care in the community setting by Community Mental Health Teams.

That provide value for money

Efficiency savings= money.

Surveying F1s at trusts using Dr Toolbox, we found that mean time saved per doctor per day was 39 minutes.

A typical trust having at least 60 doctors in training (conservative estimate)

- Estimated pay of £20 per hour
- Benefits accrued over course of a year (250 days working)
- 60 (doctors) x 40/60 (hours) x 20 (hourly rate) x 250 (days)
- £200,000 savings per trust per year

Scaled nationally to 250 trusts would make possible £50 million of efficiency savings.

There would also be other benefits such as improving patient safety when booking investigations or referrals. Also if successful for doctors similar benefits could be accrued for other professionals.

5. Experienced challenges

List the challenges you experienced, why you experienced them and what steps you took to overcome them, or if not, why not? It is important to capture any challenges or issues that made an impact on progress - irrelevant of how small.

Legal aspects of agreements with the app developer- surmounted with legal help.
Drawing up legal terms and conditions.

Challenge of engaging trusts and, most cogently, educating junior doctors and raising awareness of Dr Toolbox.

The ever changing nature of mobile technology provided challenges. Keeping the app up to date with new operating systems and also ensuring that it was compatible with older phones and computers.

6. Lessons learnt and recommendations

6.1 Lessons learnt

- Other than the above challenges, what have you learnt through your experience of designing and implementing the project?
- Were there additional benefits realised that were not originally identified at the start of the project? E.g. knock-on impacts to other members of staff who were originally not targeted; greater collaboration across teams; and/or a financial gain which was not originally in the plan.
- If you were to undertake a similar project, what would you do differently?

Take every opportunity presented. Look after your champions and be really receptive about their feedback. Make sure you make something which adds benefit to the people that you are using to implement the project (i.e. trainees).

Enthusiasm for projects often comes from unlikely areas- we received much MDT interest from Dr Toolbox, even though it was originally intended for use by doctors.

6.2 Recommendations – project enablers

What recommendations can you provide to other NHS trusts who may want to adopt your project? Please think about the critical ‘enablers’ that need to be in place to ensure the success of the project.

It's very easy to start using Dr Toolbox, visit our website:

<http://www.dr-toolbox.com>

More information can also be found at NHS Improving Quality:

<http://www.nhs.uk/resource-search/case-studies/hee-dr-toolbox.aspx>

7. Sustainability and adoptability

You should be able to use the information provided in your project closure report as a basis for completing this section.

- What plans are in place to continue the project within your trust – please include details of wider trust roll-out and/or spread to other specialties?
- How is the project being managed and by who?
- What are the governance arrangements in place?

That every doctor in the NHS will start their job with all the information they need to be excellent at the job. This will enable them to complete their work in the specified time and devote adequate time to training.

Our vision is that if this is successful for doctors, it could also be easily replicated for nurses, pharmacists and other health professionals, improving efficiency and quality throughout the NHS.

Vision for the next year:

- To maintain current sites and established new ones
- To make the website available for all doctors in the London region (currently at 60%)

coverage)

- For Dr Toolbox website to continue as in independent company with its aim to bring the tool to as many trainees. We plan to do this with a business model that enables us to provide the HTML5 app for free but generate revenue from a premium tier e.g.
 - Free tier for all current subscribers
 - Premium tier (set at a level that it would be a no-brainer for trusts to be involved e.g. about £850 / trust per year).

Our vision for 3 years:

- Expansion beyond the London region nationally.
- That the site will be used by other health professionals; nurses, pharmacists and to create access for locums.
- An upgraded website.
- Use of the site internationally. This could be in the context of a development setting or to other developed health services.

Key stakeholders:

- Doctors in training who will act as editors for the local sites
- A local leadership member of permanent staff e.g. hospital consultant to take overall responsibility of the site at their trust and to ensure continuity of the program by appointing editors.
- Local Education and Training Boards (LETBs)
- Leaders and innovators from other professions.

What we would need to achieve this vision:

Approximately £20,000 for the next 1-2 years. This would support paying for the free tier whilst the long term business model was established.

The London Foundation schools /LETBs have suggested that they could find this money as it will support the Leadership Programmes and be a bridge to long term sustainability. This would pay for some essential part time admin support.

Opportunities:

1. Doctors could transfer the most useful pieces of information from one site to another e.g. Finding safer ways for doctors to request radiology across all the London hospitals and updating the London Dr Toolbox sites accordingly.
2. The toolbox could be used to direct doctors to making email referrals based around NHS.net, phasing out faxes.
3. Use by other members of the multidisciplinary team e.g. nurse or pharmacy toolbox.
4. The website could integrate with new technologies when they come online e.g. Google glass.

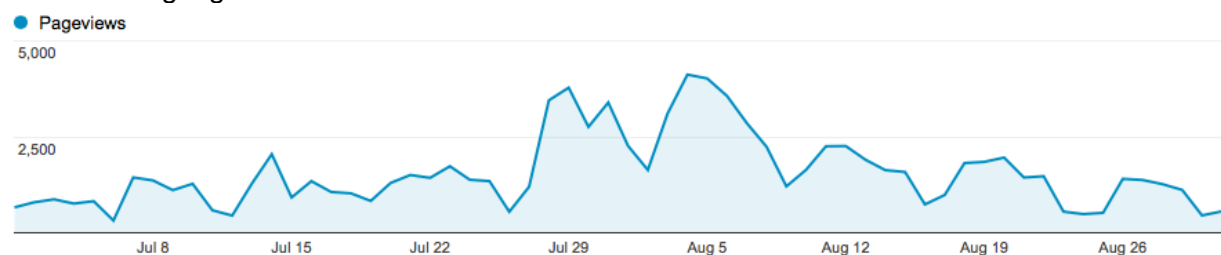


Figure 1: Dr Toolbox page views per day in August 2014

8. Feedback and testimonials

- Please use this section to capture the feedback and testimonials you have received throughout the project (where consent is given). This will be used for the final case study to support the engagement with and adoption by other trusts. You may include this as an appendix, weave the comments throughout the report or insert them in this section. Please state the title of the person concerned.
- Please aim to include a good selection of quotes from trainers, trainees, other members of the MDT, the Medical or Education Director and CEO if possible.

Prof Parveen Kumar, Former President of the Royal Society of Medicine:

“Very happy for you to say that I think it is great - excellent for helping best practice and good patient care. You won't believe this but I did the first one for Barts (and then Barts and the London) ages ago on a Filofaxhow things have changed!”

Sarah Hammond, Consultant Anaesthetist

“Massive potential... for all juniors on a firm.”

F2, NW Thames Deanery

“I wish I had this when I started!”

Ryan Pedley, F1 St Georges Hospital, London

“The whole toolbox buzz at SGH really put the topic of handover on the table.”

Rob Bethune, Surgical Registrar, Bristol

“First a disclosure – I am not great with IT. But I love it and can really see how it can help with some problems in healthcare. Here is an example.

I have worked in ten hospitals in the last twelve years and none of them has had a ‘junior doctor’ guide that has really worked. The best was a paper book I had during my house job at St Mary’s when we still wore white coats and so had somewhere to put it. But even then it was quickly out of date and we had all stopped using it by the end of three months. However there is a real need; in the last three hospitals I have worked at the F1s have wanted to pull together a ‘how to guide’ for the hospital. All the tricks, phone numbers and bleeps that you do not know at the start of your year but by the end you have a list so you can get things done (like how to request a PICC line, or which radiologist is best for lower GI). Then you finish your job and all that knowledge is instantly lost. I am registrar but I still set up a iphone notes page for each new hospital I work at, I add all the useful information as I go along and at the end of the six months I have all the door codes, bleeps and names I need to do the job, and then when I finish I delete it.

There is a better way – Dr Toolbox. This is a website where you can put all the ‘how to’ information, and anyone can use it for free. A hospital specific site can be created and the doctors can add the information as they learn. It works like a wiki page so anyone (who has been given the password) can edit it and put in useful information for others and themselves. If you want to find out more – there is a forum post about it and Will’s project is on the casebook and of course you can contact him through The Network site, just search the members section.”

Professor Sir Bruce Keogh- NHS Medical Director

“I am excited by the development of the Dr Toolbox. It is an excellent innovation which I feel will significantly transform the perennial issues faced by junior doctors and hospitals in general.

I am also particularly encouraged by the inclusion of patient safety as both a driving principle and an explicit consideration in the Toolbox itself. I strongly endorse this initiative and encourage you to get involved at your hospital.”

Appendices

If you have developed any toolkits, ‘how to’ guides or other resources that you would like to share, please include these as an appendices to the report.