Case Study

Using eportfolios in Undergraduate Medicine to reflect and evidence clinical competences

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The background context

ePortfolios address a current need in undergraduate medical education in which medical students can collect, provide evidence and reflect on their clinical experiences. These experiences can then be shared with Clinical Tutors and Firm Leaders within the students' eportfolios.

The requirement was to implement eportfolios in the clinical year and it fitted well with the Year 2 undergraduate medical students during their first 3 weeks Clinical Attachment. This helped to develop the culture of reflection on eportfolios during their early medical education. There were 294 medical students in Year 2 accessing the eportfolio.

The Faculty of Medicine at Imperial College London decided to pursue the implementation of an eportfolio for Undergraduate Medicine in Spring 2009.

The current practice

The role of Clinical Tutors and Firm Leaders is to provide feedback on the reflection of students' Patient Journey and Clinical Experiences forms. These forms encourage students to reflect on clinical cases seen at the wards covering the following sections: case summary, what I learnt, what I did well, and what I will change next time.

The Patient Journey Form encourages students to select patients and follow them through all the investigations and treatments they undertake during their stay in hospital. The students are encouraged to add as much detail as they can, including timings of events, for example how long it takes the porters to transport the patient from the ward to X-Ray, how the timings affect the treatment received, and the patients' perception of the health care received.

The Clinical Log Book originally used during the Year 2 First Clinical Attachment used to be given to students as a paper based portfolio which the students had to carry with them. The likelihood of students forgetting their Clinical Log Book or losing it was very high. At the same time, any evidence registered in the Clinical Log Book by Clinical Tutors or Firm Leaders was compromised if the Clinical Log Book was lost or stolen.

Several eportfolio systems were reviewed in 2008. The requirements were divided into ten different sections: curriculum related features, careers, assessment, publish/share, analysis tool, access, customisation, technical infor-

mation, staffing requirements and costs. PebblePad was selected as the best option. It is LEAP2A, HRXML, IMS eportfolio 1.0 and HTML conformant, it has a wide community of users in the UK and complies with most of the requirements specified in the evaluation.

In addition to that, PebblePad offered an easy way to customise forms and profiles which easily accommodated the Clinical Log Book. PebblePad also offered powerful and user-friendly tools at Enterprise level for creating and managing groups and Gateways.

The purpose

The main driver came from the top management of the Faculty of Medicine. The Faculty had realised the need to provide an eportfolio to

undergraduate medical students in order to improve their learning experience as well as to introduce them to the concept of eportfolios which is widely used at postgraduate level. ePortfolios will be part of the student experience.

It is envisaged to introduce students to the use of PebblePad from Year 1 allowing their eportfolio to grow with them as they progress in their undergraduate medical studies. ePortfolios will provide a student-centred platform for students' reflection and collection of medical experiences and skills. It will also provide an easy way of sharing resources and learning experiences.

The approach

In order to bring together all the parties involved, the ePortfolio Working Group was set up. This group was lead by an Academic and a Technical co-ordinator.

Different domains were identified within the working group, e.g. clinical skills, assessments, clinical experiences, etc, and a representative for each domain was assigned. This helped the academic and the technical co-ordinators organise and prioritise all the information relevant to the different domains in a systematic way.

The model implemented proved to be very successful with the implementation of the eportfolio for Undergraduate Medical education completed within 6 months. The 6 months covered:

- Consultation process.
- Hosting and authentication implementation.
- Design and development process.
- Evaluation
- Student and staff training.

The issues

Two main barriers were encountered. In the first place, accessing PebblePad from some NHS Trusts was not possible due to Firewall issues. In order to manage these issues only one NHS Trust (St Mary's Hospital), in which there were no Firewall issues, was designated as the main site. Firm Leaders were trained to sign off students' eportfolios at that site. At the rest of the NHS Trusts, Firm Leaders could sign off students' eportfolios on paper and the students were encouraged to attach a digital copy of the sign off sheet as evidence in their eportfolios.

The second barrier encountered was the lack of time for Firm Leaders to engage in any training opportunity. In order to tackle this issue several step-by-step video clips were produced and made available via the Faculty's Intranet as well as on YouTube.

The result

The eportfolio successfully replaced the original Clinical Log Book and it was successfully implemented across the First Year 2 Clinical Attachment. All the students completed their Forms and Profiles and all the students at St Mary's Hospital published their Forms and Profiles onto the Gateways. 8 out of 10 Firm Leaders at St Mary's logged into the eportfolio and 4 out of 10 signed students off using the eportfolio.

The following are some students' comments:

What did you like the most about using My ePortfolio?

"A good method to feedback on our clinical experiences during our placement, as it gives everyone a goal to work towards completing; and identifies the areas I feel I am strong at, and other areas that I will need to improve on."

"Easy way for students and consultants to present and evaluate activity."

"Excellent user interface. Generally simple to use."

" Allowed me to gather all my information in one place and store it ~ more reliable than bits of paper. "

"I felt typing up patient histories and clinical experiences helped reflect on what we had done but only was useful if it was typed up the same day."

How could My ePortfolio be improved?

"It needs to be used and recognized by everyone, including the doctors if they are to review or comment on our 'assignments'. If we were encouraged to list all of our achievements, skills, and activities in there (of relevance), it would certainly seem a more essential part of our education."

"Nothing really. I felt very satisfied with the software."

"Automatically load assets you know we need instead of having to find them ourselves."

"Making it simpler to navigate."

"A timetable or something similar which lists what needs to be completed on the homepage."

The learning

It was a very challenging experience to bring together a large number of clinicians and academics and come out with finalised and concrete items to be incorporated into the eportfolio. Having a working group with representatives from all the different areas involved was crucial and key to the success of this implementation.

The Gateway feature was extremely helpful as it allowed the generation of different groups so Clinical Tutors and Firm Leaders can only see their respective students rather than going through the entire list. Also, having limited and specific forms (fit for purpose) played a very important role in the success of this implementation.

It was also extremely important to split the population into different sections as we did with the NHS Trust where there were no Firewall issues. This helped us focus and tackle more efficiently all the issues involved with the implementation.

In brief

- 'Think big, act small'.
- Bring key people together.
- Have two main leads, Academic & Technical, and make sure they can work together!
- Capitalise on the support given from above.

Acknowledgements