

Introducing High Stakes Computer Based Testing at  
RCPCH by:

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Paediatrics and Child Health

## Presentation Transcript & Profiles

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# Introduction

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The following is a transcript of a presentation by Julia O'Sullivan of The Royal College of Paediatrics and Child Health at the 7<sup>th</sup> Annual Surpass User Group Conference in Amsterdam in 2014.

**All the views expressed by the presenters are their own.**

## Video Links

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Presentation: <https://www.youtube.com/watch?v=IMVJizFhc8g>

## Transcript

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### Julia O'Sullivan

Morning everyone, and it's a real pleasure to be here today. I was sort of thinking about the plenary speech this morning and I thought actually if we'd come to this conference before we started to introduce computer based testing, we might have learnt a lot more, but we have learnt a lot along the way. Just to give you a bit of background about what the Royal College for Paediatrics and Child Health is. We're responsible for training doctors to become paediatricians, so these are doctors who've gone through medical school, they've taken two years foundation programme, and then they come onto the specialty programme which is an 8-year programme. So, we are talking about professional education, and obviously they have lots of formative and summative assessments in workplace, so in clinical settings, and we're looking at computer based testing for our membership exams. Our role is that we set the curriculum; we set the assessments, of which the exams are a part. The membership exams that they have to achieve consist of three theory papers, Foundation of Practice, Theory of Science, and Applied Knowledge in Practice, and they have to pass all 3 before they can take the clinical exam. Once they've passed the clinical exam, they get their membership qualification, and this is real high-stakes because if they don't get that membership exam, they are off the programme; they can't continue to become a consultant paediatrician. So what we're trying to introduce is a sort of high reputational risk for us, in terms of taking it forward overall.

In terms of where we started doing computer based testing prior to my arrival at the college, so about 2008 it was starting to be looked at. When I arrived in 2011, well this was something we should be doing, we needed to be moving forward, and so we did some research, we got the approval to go ahead with the funding of it, and we appointed a project manager in 2012.

Fortunately for us, our project manager had been covered maternity leave by the exams manager, so we had a fair amount of knowledge coming through into the system overall.

So our initial plan, you know, before we could even start anything, we actually had to work out what it is we already do, and we had to document all of that. We had some things documented, but we didn't have a lot of processes in place. Our exams sit across 3 teams as well, so we have a team that sort of do all the logistics and deal with all the candidates, we have a team that do all the question generation and produce the papers, and we have a psychometric team that do all the analysis after

the exam and produce all the results. So those three teams had to sit down, work out the processes, and that all then went into our tender document.

We also had to decide what we wanted to do, and it was Peter speaking this morning that made me think, we had great ambitions about what we could change. We wanted to bring some things out of our clinical exam that we had some video stations, we wanted to bring that in to our theory exams, but at that stage it was just too ambitious so we decided, 'what do we want to do?' We wanted to run our exam exactly as it is on paper, and put it on-screen. We also at this stage thought that we were going to source our own test centres as well, and we did some research around that, and we also already had a question bank, and our plan was to keep that and just upload things into a new system. So, we had all sorts of things we decided to do, and try to weigh all those up. Then we had to find someone to deliver this, so we went out to ten, we actually contacted nine companies, seven of whom came forward to tender which obviously BTL was one of those, and we got it down to three companies that we shortlisted, that we agreed, and BTL came forward.

So what were some of the issues? Well, no one did exactly what we wanted them to do, surprise there! And really it was trying to think about what we need to change in order to do this as well. It's also about what we were prepared to compromise on, and we had already decided that we wouldn't compromise on our question types, and we have MCQS, we have extended matching questions, and we have short answer questions, so there are a lots of things. But, the format was going to stay the same, it had to. We have a curriculum, we have an assessment strategy. We have to get approval from the General Medical Council before we can change things so that just wasn't an option. But what we did compromise on was that we decided that we weren't going to keep our question bank any more, and we certainly weren't going to source our own test centres; it was going to make us very efficient, so we changed those things. And also then about what risks we were prepared to take, and CBT seemed riskier, and there were questions like 'what if the system goes down?', 'what are we going to do?', all those kind of things. But actually we've run our exams in big test centres, if there's a power strike that day, it wouldn't happen anyway, so it's trying to anticipate some of those things as we go forward.

So, why BTL, and why Surpass? Why are we here? Well, the key thing to really work is that we were looking for a supplier that could deliver what we wanted, but it was really important to us that we had a good working relationships in terms of trying to move this forward. We had to work closely together. One of the things BTL do, which none of the other companies were, was they invited us to take part in a workshop before the final presentation. So when we got going to our last three companies, they invited us to a workshop to go through everything we wanted to do, and work through some of those processes, so they were starting to gain real understanding around things, and the final proposal they presented showed that they did understand what we were about as well. We liked the aesthetics of Surpass, it seemed intuitive to use and that's really important for us because we have remote users, which are clinicians, doctors, some of them are fairly IT literate and some of them not, and that was a big issue. They've got to be able to use this system to get the questions on and do that remotely so that was the other thing. And then the test centre networks. So BTL – actually, this was a new one for them – they sourced the test centre network, and they went out and we said where we deliver the exam which is all over the UK, and overseas, and they sourced all these test centres for us, so I think they worked really hard to do that.

So in terms of where we were, what was the sort of timeline? Well we took a bit longer than we thought, so BTL were actually appointed in July 2013, that actually took us three months longer than we anticipated so we started behind the current schedule anyway. The whole ideas was that in

September 2014 we would go live, seemed a reasonable amount of time and we were going to do a number of things. But then we thought, actually we need to test our process, test Surpass, we need to test the test centres, and we didn't want to do that in a live environment so we decided we had to run a pilot.

What was the pilot about? Well, we wanted to test everything actually, and we wanted to test how we got our questions in, how we got the paper uploaded, how the test centres run, making sure all of those processes worked. Could we direct and get the right data we needed from the results? Could we get some feedback from our trainees who have volunteered to do this? It was in their interests they went and had a free go at a paper, which would help them. So we were looking at testing a whole number of things. The applications, we have an online system for the candidates to apply to the exam, well then, that was sitting outside Surpass, so there had to be modifications to that. We had to use new specs and get candidates allocated to test centres, so there's all sorts of things we were testing that were working really well. Test centres themselves – this was new to BTL – we had to do a new invigilator guide that was really robust, and that was used as a test for BTL to test their invigilators, to make sure that they met their standards. Also, BTL did sort of audit the test centres to check that they met their standards and ours, so we getting on with a lot of things. The exam itself went really well, we know this runs, and we had one centre in London where actually RCPCH staff went to take the exam. The invigilator didn't know that, and we were set all sorts of tasks we had to try and do to test the system, and in fairness this poor invigilator, there was about ten of us who had all sorts of things we should have been doing in the exam, he handled it really well and it was all reported back, so all of that was really good.

The thing that came out of the pilot, and that was run in March 2014, was that there was issues with the results. The way the raw data was extracted through Surpass. It didn't provide us with the detailed analysis that we needed, and we do a real lot of detail, I'm sure all of you do as well, but we analysed every single thing. We had different items within questions, we analysed all of that, performance within a question, and it wasn't coming out in the formats that we needed. So, that's actually presented an issue, and there's been lots of discussion backwards and forwards with BTL, and we should get an app this week – according to Claire – that will give us some more testing time to do that. So the pilot was the best thing we ever did. As I say, we know the logistics work, we know we can get the paper up, but we've still got to sort a few things out with the tests as well.

So just a few headlines from the pilot. We had a lot of interest from trainees, in fact 113 applied to our online system. Obviously we didn't charge them any money, and we actually gave them a discount for their next exam, which was a good incentive to get people to do things for you, and in the end 99 candidates actually sat the exam, and that included some of us as staff. The people who didn't sit, things like their rota changed so they couldn't come, a couple of people turned up without the right ID so they weren't let in, so there wasn't any significant reasons why people didn't actually sit it in the end. As you can see, we ran it in eight test centres in the UK and three overseas, and that all worked really well so obviously it's fairly big. We got huge amounts of feedback from 90 candidates, which was brilliant. A lot of the feedback though was nothing to do with CBT, it was about things that we do that we need to look to improve generally, so that was another thing that was really important to us as well. So we know the logistics work.

One of the lessons that we're learning I think, because we're still going through this process, one of the big things is that we are buying an off the shelf product and we've had to have a bit of a shift in mentality because prior to that we had bespoke products, so we asked for changes, and they happened. But what that's meant is that we've had to be much more creative, and we're trying now

to look at our processes to fit the product, and we're working through that. Some of it is a bit difficult at times, but people so far are coming up with good solutions, and probably the results one is one of testing us the most overall. We have had to compromise on some things so while we wouldn't change any of the questions, we did compromise in terms of how they are displayed. We were trying to do everything how it would work on paper, not just straight on. So we changed the display, and that, you know, a single answer key, I don't know how many types that went backwards and forwards between BTL and us. But anyway, we're getting there. We've got an interim solution, and then it will be sorted out long-term in terms of how we actually want to do it as well. Test centres, we already know.

One of the key things is having a dedicated project manager. We wouldn't have got anywhere near as far as we've got without someone who is driving the project forward. They're not getting caught up with their day-to-day work elsewhere, and really pushing staff. The downside of that has been that staff haven't taken ownership of it. They see it as the project manager's project, and really the engagement with staff is there but we should have done that earlier on and got them more involved in some of these things, so that's a lesson for us overall. And the other thing was about language between BTL and RCPCH, that the same words had different meanings to us. So things like BTL use learning outcomes, and we use our curriculum but in our exams we use feedback categories, so there are little things. So, we were talking, and we thought that we were saying the same thing but in fact we weren't. It's nothing that couldn't be sorted out, but we've actually worked through that overall.

So, where are we now? There's a big difference between where we were and our timescales have shifted, so we originally were due to go live in September, it would have been next week, but once we did the pilot in March we didn't have enough time to get all the information and test it all before we were ready to roll, so we actually pushed go live back to January 2015, and that's still what we're going to do. We were going to do what is called a soft launch, so that was going to be our candidates in London were going to sit computer based test in September, and everyone else was going to sit pen-and-paper exams, so we were going to do that. We thought that was going to give us some really useful data about were there any differences, but again there wasn't enough time to do that so we scrapped the soft launch, staying to go live in January but what we've introduced is a softer launch in October. So, we're having a week in October where the college will be used as a test centre, we'll get our trainees to come in, and sit a sort of sample paper for us, so we can get some more data and use that to try and do it. So, things have shifted around a little bit. But, as I say, we are due to go live in January.

This is the point of no return; it is slightly scary but I think we will get there. I think the one thing about this is results data, so we have to sort that out in the next few weeks, more testing and to make sure it works. Then maybe some things in terms of how it would manipulate the data that might require us to take a bit longer, which is not what we wanted. This is all about trying to make it more efficient, but we may need to do that and we have to accept that in the short term as we move forward. So our applications for the January exam open on the 27<sup>th</sup> October, so we have to be really confident on the 27<sup>th</sup> October that we're fine. So, in 2015, what we're looking to do is to hold 12x 2½ hour exams in 35 test centres in the UK, and in over 20 overseas, so this equates to something like 12,000 2½ hour exams. It's very real for us; our trainees are sitting a high-stakes exam that they have to get through if they want to progress. We will continue to put comments into Uservoice for Surpass to look around changes we may make. But what is sort of the really great thing about this is that we will be the first medical Royal College in the UK to be using computer based testing for our membership exams. So we are excited, we are nervous. I think we'll learn a lot by being here over

the next two days to listen to other people's experiences as well, but we do have lift-off from January, and thank you very much.

## About the presenter

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### **Julia O'Sullivan, Director of Education and Training**

Julia joined RCPCH in 2011 to lead the education and training of trainee and career grade paediatricians. She has worked in healthcare education for most of her career working with dentists, physiotherapists and other healthcare professionals. Her expertise is in continuing professional development (CPD), educational programme design and delivery, and quality assurance. Julia is an experienced lecturer and facilitator running educational programmes on CPD and reflective practice. She is responsible for the strategic development and implementation of paediatricians' education from the specialty training programme through to CPD and revalidation. Julia is also a Director of e-Integrity which licences healthcare e-learning materials.

## About The Royal College of Paediatrics and Child Health

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The Royal College of Paediatrics and Child Health is responsible for training and examining paediatricians in the UK. The College has over 16,000 members in the UK and internationally, and sets standards for professional and postgraduate medical education. In 2012 RCPCH began a project to transfer their existing paper-based examination process into an entirely computer-based one. Seven computer-based testing suppliers bid for the tender but the project board were unanimous in initially shortlisting 3 companies before selecting Surpass.

On selection of Surpass Romana Moss, Computer Based Testing Project Manager stated:

***"A key factor in our selection of Surpass was how clean and simple the authoring environment is. Our Clinicians, who produce our question items, do not have time to learn a complex IT process, but we knew we could just give them access to the tool and they would have no problems creating questions."***

**Example Assessments:** [www.rcpch.ac.uk/theoryexams/samplepapers](http://www.rcpch.ac.uk/theoryexams/samplepapers)

**Statistics:** Contract since 2014.

**Website:** <http://www.rcpch.ac.uk>