Interview with Clinical Director of OpenEyes (Part 1)

In a break from the traditional format, this issue's tech column is an interview. **Professor James Morgan** is an Ophthalmic Consultant at Cardiff Hospital and also the clinical director of the OpenEyes programme. Given the national push for electronic records we felt hearing directly from James would be of interest. The interview was conducted at the UKEGS (UK & Eire Glaucoma Society) meeting in November 2014. Due to the length of the column the interview has been split between this and the next issue.

What is your current role with OpenEyes?

I'm the clinical director of the OpenEyes programme, which is based at Moorfields. But Moorfields is only a part of the picture since the overall strategy of OpenEyes comes under the OpenEyes Foundation, which is a board that directs the trajectory of OpenEyes as a product. Although it's open source, some things have to be protected. For example, things like logos and the name of OpenEyes, so it can't be hijacked by another entity. At the moment we are focused on enhancing the deployment in Moorfields but also designing the organisational structure of OpenEyes so that it is fit for purpose in other organisations.

Can you tell us why you are championing OpenEyes?

So I have no proprietary interest in OpenEyes. It's purely technology that got me to this place. We have had several encounters with EMR (electronic medical record) systems like HISL (Health Information Systems London), which was a very good system for community-based care. Also HICOM, Newmedica (Jeremy Diamond) and Medisoft. But going forward, integrating primary and secondary care, scaling to cover larger regions and countrywide deployments, there wasn't anything on the market with the same reach and capacity. I was impressed with my use of OpenEyes. The thing about OpenEyes is its speed. It's fast. You don't need to employ technicians to transition. It's a very important feature, because most clinics don't have those resources, which can impede data entry. So that's how I got involved really and in fact we just deployed in my clinic over a year ago. We just voted with our feet and ran a version of OpenEyes – this has been a very positive experience.

Much has been made of the fact that OpenEyes is open source. To an average clinician, wanting to bring OpenEyes into the clinic, what advantages if any, do you think a clinician would gain from using an open source piece of software like OpenEyes? Using the EMR per se, you wouldn't really notice it because it doesn't affect performance. However, it does mean you have security. Small companies own most ophthalmic EMRs. They are at risk of being sold off to larger outfits which could place the support of your EMR at risk. Also, if you want to change something it can be challenging if this is not aligned to the interests of the company or if you have insufficient funds to make the change. That's not the case with open source. You can change it yourself and run a different version. You can contribute to the code base or share the costs of development with other users. In Cardiff we have a subtly different version of OpenEyes to the one in Moorfields which reflects the differences in how clinics are run. An open architecture allows the development of slightly different versions of an EMR to suit clinical need: one type of EMR isn't going to keep everyone very happy.

When, if ever, do you see OpenEyes replacing paper in Cardiff?

Well, it's already done in my clinic as I see patients. Now, we're paper-lite, not paper free, because we run OpenEyes only in the eye clinic. Where we abut with other clinical services, so bookings for fields and tests, we still fill in paper forms because those are patient administration tasks. For most deployments in the UK, the patient administration system (PAS) connection, in terms of outputting data to book patients in the clinic, is going to be very challenging. Unless, that is, you have a hospital wide EMR, of the sort EPIC does, then that's an entirely integrated system. Pulling demographic data in from the PAS is fine. We now pull in data from a thing called the Master Patient Index, which is a demographic register of all patients in Wales. So we don't have to do PAS links for each hospital.

How about the other ophthalmic specialty modules? When would you foresee those being as mature as the glaucoma module?

The most mature parts are cataract, glaucoma and medical retina. There are some key bits that need to be developed. So, for cataract, we have to finalise the IOL Master link, we're going to do that shortly. For glaucoma we're fairly well progressed, inasmuch as we have the field link working. We've got agreement with Zeiss for technology that is Forum independent to pull numbers off the Humphrey Field Analysers. The imaging is an issue; in terms of how do you want to interrogate the imaging. We're not quite sure really, among the clinicians, whether they want to interrogate live sets of data or whether they just want PDF or TIFF printouts. It's something we are developing and we have a version that will run optical coherence tomography (OCT), but there's a gap between a version and a release version. That could be six months to a year, so it's tested and safe.

Mr David Haider,
Consultant Ophthalmologist and Chief Clinical Information Officer, Bolton Foundation Trust, UK.

**E: david@drhaider.co.uk
Twitter: @drdavidhaider**

The author has no proprietary interest in any of the products discussed.

Interview with Clinical Director of OpenEyes (Part 2)

This issue we're concluding the two-part interview with **Professor James Morgan**, the Clinical Director of the OpenEyes programme and Consultant in Cardiff. Given the national push for electronic records we felt hearing directly from James would be of interest. The interview was conducted at the UKEGS (UK & Eire Glaucoma Society) meeting in November 2014.

Do you see OpenEyes ever offering a full ophthalmic PACS solution, so all the ophthalmic images will be viewed through OpenEyes?

Yes. What I would like to see is that we take the strength of OpenEyes, which is fast data delivery, and that we can deliver some PACS support. We are going to use DICOM as our standard so that we are compliant with regulatory agencies. So, whilst obviously we can hack into files and pull that data off, it's not a viable way forward. This comes back to the point of re-platforming. OpenEyes is written in PHP but we're shifting to a different language, which allows us to use all the standard hospital libraries like HL7 and DICOM imaging. That makes us that much more compliant with other providers, both within and outside the UK. There is a lot of interest in OpenEyes outside the UK, and this has refined our view of how we do things.

Can you tell us about your approach with OpenEyes as an all Wales solution?

We are looking at a gradual deployment in Wales. We're not going for a big-bang deployment. We plan to install a managed service in January 2015 which would mean at a technical level that all hospitals could connect. The ability to connect though is not formal deployment. The first step we're doing is to capture e-referrals from community optometrists. They will login through a secure portal and their e-referrals will come into the Virtual Clinic Module of OpenEyes. You can look at the virtual clinic and curate your referrals, rejecting, accepting or commenting on those, thus lessening your workload. We'll be working with approximately 10 optometric practices for the purposes of testing the installation and pilot the installation on a trust by trust basis.

How many hospitals potentially are there?

Roughly about 17 eye units, there'll be several community clinics and eventually approximately 430 optometrist practices. The Welsh government has put three quarters of a million pounds into refreshing the technology for optometric practices to connect and another reasonable sum of money to pay for the development. The great thing is that development, once it's done, will be shared with other customers. So we're not going to keep it in Wales.

You said the Welsh hospitals would be using the managed service? Does that remove some of their ability to customise OpenEyes individually, given that they will all be on the same version of OpenEyes?

In the first instance, we're not going to go for bespoke hospital deployments. The deployment will be what's called OpenEyes 1.7 to 1.8, which is the current release version. Our forthcoming re-platform will facilitate local reconfiguration so it will be very modular. In the longer term we envisage versions of OE that match clinical workflows. We've learnt a lot during our initial deployments in Salisbury, Orbis (an international partner), Cardiff and the 20 or so units in London. We can't please all clinicians with a single product; we have to match different unit workflow, depending on their resources.

Finally, is there anything else you'd like to share on this topic with the Eye News readership?

It's a good question you asked about why support OpenEyes in the way I have. The developments in web-based applications have been striking and it has been great to see these benefits realised in a clinical setting. We plan to position OpenEyes so that it can take advantage of the latest advances in database design, particularly those that allow us to deliver OpenEyes as a managed service across many hospitals. I think it's very healthy that we can do it, because sometimes EMR systems can get stuck with legacy technologies. That has scalability and speed issues. OpenEyes is the fastest EMR I've ever seen, and going forward that's what we will stay with. We're moving to a product that can be configured to match clinical workflows to support, rather than hinder, the delivery of high quality care.

Mr David Haider,
Consultant Ophthalmologist and Chief Clinical Information Officer, Bolton Foundation Trust, UK.

E: david@drhaider.co.uk
Twitter: @drdavidhaider