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CONTENT DEVELOPMENT FOR 72,000 LEARNERS: AN ONLINE LEARNING ENVIRONMENT FOR GENERAL PRACTITIONERS A CASE STUDY

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ABSTRACT

Increasing workload due to reduced numbers of general practitioners, a population boom and an aging population has increased the need for accessible distance learning for the UK's primary care doctors. The Royal College of General Practitioners is now in its eighth year of delivering high quality e-learning to 72,000 registered users via its Online Learning Environment. In this case study we present the background around the RCGP's decision to deliver distributed continuous professional development and the workflows that enable its online learning team to produce high quality clinical continuous professional development courses for primary care.

KEYWORDS

Continuous professional development, E-Learning, General Practice, Andragogy, RCGP

1. INTRODUCTION

Patients and the wider public rightly expect the highest degree of professionalism from their physicians, but in an age in which all professions, including medicine, have seen their statue diminished, the demand for doctors who not only fulfill the traditional values of healers and sources of comfort, but also operate on the base of the latest scientific expertise is higher than ever (Cruess & Cruess, 2000). The complexity of modern medicine makes this demand ever more difficult to fulfill for the practising doctor who has to balance his work day between patient contact, administrative tasks and continuous professional development (CPD). As no newly qualified doctor's education will be sufficient to accompany him safely along the lifelong journey through medical practice, CPD is vital for patient safety (Tulinius & Holge-Hazelton, 2010). This involves responding to educational needs that arise during patient contact and continuously being up to date on the ever shifting evidence base around diagnostic and therapeutic methods. This is particularly difficult for general practitioners (GPs), who are expected to know something about everything at a time when knowledge is changing ever more quickly: while in the 1950s the doubling time for medical knowledge was approximately 50 years, this has now increased to ca 3.5 years in 2010 and is estimated to be just 73 days by 2020. This means that GPs who started practicing in 2010 by now have seen overall medical knowledge double since their graduation (Densen, 2011). At a time when overall government spending for primary care in the UK has been declining since 2005 – hitting its lowest point in 2014 – it is unsurprisingly difficult for GPs to find the time for CPD just when the UK is bucking a European trend, delivering an uncharacteristic baby boom with an increase in population of 5 million since 2001. Add to that an increased demand for primary care due to an ageing patient load with an ever increasing range of comorbidities, we have a perfect storm (Pilat, 2015). Traditionally, GPs would undertake their CPD at conferences, seminars or participating in problem based small group learning or reading professional printed journals but there just doesn't seem time for such activities. Over the last 15 years the national transition to computer-based practice management systems has effectively placed a PC on every GP's desk, presenting an opportunity for CPD to take place online (MacWalter, et al., 2016). Fortunately, GP's learning styles are very much in line with Knowle's six

principles of Andragogy, as they are results oriented, self-directed, use their experience as clinicians to connect their learning, are relevancy oriented, inherently practical and highly motivated (VanNieuwenborg, et al., 2016). This makes on-line CPD such a favourable proposition, as the clinician can respond quickly to a perceived educational need that arose during a consultation without having to wait for a seminar or conference to come around. The immediacy of internet based learning is therefor one of the secrets to its success over the last 15 years and its broad uptake (MacWalter, et al., 2016). Effective and appropriate use of CPD by GPs in the United Kingdom is being assessed on a yearly base within a formative appraisal meeting between the individual GP and an appraiser - a specially trained GP from the same geographical area as the appraise - as part of an annual educational review process. The appraisal process covers six main elements: CPD, quality improvement activity, significant event analyses, feedback from colleagues, feedback from patients and review of complaints and compliments. After 5 yearly appraisal meetings in which all educational needs have been demonstrated to be met, the appraiser can then recommend that the appraise is revalidated by the regulator for the next five years (NHS Revalidation Support Team, 2014). As e-learning as a delivery method of CPD in general practice is not only popular but also both effective and highly regarded by learners (Robson, 2009) (Sandars & Walsh, 2006), the Royal College of General Practitioners (RCGP) in the United Kingdom started to produce e-learning in 2008 to provide high-quality CPD within a distant learning setting for both its members and other health professionals and now has 72,000 registered users. The RCGP is a network of more than 52,000 GPs and the voice of the profession on education, training, research and standards. It is the professional membership body and guardian of standards for family doctors in the UK, working to promote excellence in primary healthcare. The next two chapters aims to introduce the RCGPs online learning environment (OLE) and its two main branches of content delivery.

2. THE RCGP'S ONLINE LEARNING ENVIRONMENT

2.1 Essential Knowledge Updates

The concept of the Essential Knowledge Updates (EKU) programme arose from the need to provide general practitioners in the United Kingdom with a quick and accessible way of updating their knowledge on new and changing information relevant to the GP specialty and encourage effective application of the knowledge in clinical practice to enhance their skills and therefor patients' experience and care. Staffed by two part-time general practitioners and two full time administrators, the EKU team has a pool of 12 freelance authors who all work as doctors in primary care. Fully funded by membership fees and free for all of the RCGP's members, it enables GPs to meet previously identified and unrealised learning needs and enabling them to easily document their learning and application in their personal portfolio for appraisal and revalidation purposes. Written for GPs by GPs and led by dedicated EKU fellow, each Update highlights and delivers the most important new and changing information in primary care via a series of online modules and undergoes a 5 step quality assurance work flow. The topics for each individual update are chosen from a literature search by one of the RCGPs information scientist and is reduced by the lead GP for the programme from ca 300 papers and guidelines covering the last six months to about fifty, only choosing papers that are applicable for front-line general practice. These are then being voted on relevance and importance in anonymity by an editorial board of 10 academic GPs and further whittled down to ca 30. After the authors have delivered their drafts and have been edited by the EKU lead, they are being reviewed by the editorial panel before being handed back to the clinical lead for further edits. The final quality assurance (QA) round is then held by the medical director for e-learning, before being released. This multi-tiered QA process -while time-consuming- has so far prevented significant errors creeping into the content and guarantees a wide variety of views and opinions around the Updates, delivering broader content. Each Update consists of eight major items (each representing circa twenty minutes of learning) and twenty short briefings, with one update providing ca 3 hours of learning that can easily be broken up and done in various sessions. The major modules consist of self-test multiple choice questions (MCQs), text, scenarios, reflective questions, Articulate animations and practice based exercises. At the end of each major item there are suggestions for practice audits and a range of links to the module's topic. The briefings summarise new and changing knowledge in a more compact form and signpost the reader to more detailed sources. Feedback from learners is being encouraged via a five-star rating system and a free-text comment field, present throughout all of the modules. All updates are

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being accompanied by a podcast in which the most important aspects of the modules are discussed with the authors and by an Essential Knowledge Challenge (EKC) which encourages users to consolidate the information. This is being put together by the same group of GPs responsible for a component of the licensing exam and includes question formats as heterogeneous as Single Best Answer, Extended Matching Questions, Clinical Photograph and Statistical Graph interpretation as well as clinical algorithm flow charts (Hilton, et al., 2012). After 2 years each update is being reviewed to make sure that the clinical guidance is still up to date and -if necessary- archived or updated. Now in its 8th year, the EKU team is currently producing its 18th edition and has seen a steady growth of users over the years. As all of the RCGPs' e-learning products are being delivered via Moodle 2.7 with themes and modules having been applied uniformly across the site, it is possible to run the site with just one instructional designer and one senior web developer.

Figure 1. Example Essential Knowledge Update

2.2 Courses and Certifications

After the introduction of the Essential Knowledge Updates in 2009, it became clear that there is scope for more in-depth courses to cover the full spectrum of the GP-curriculum. These would attempt to introduce the learner to pathophysiology, epidemiology, diagnostics and treatment around the most common presentations in general practice as well as broader clinical areas. Mapped against ten RCGP's ten curriculum domains (Riley & Haynes, 2007) – each describing an aspect of general practice, forming a useful framework for learning the fundamentals of primary care – they function as both stand-alone courses for primary care physicians to use as CPD, and reference courses to 'dip in' when needed.

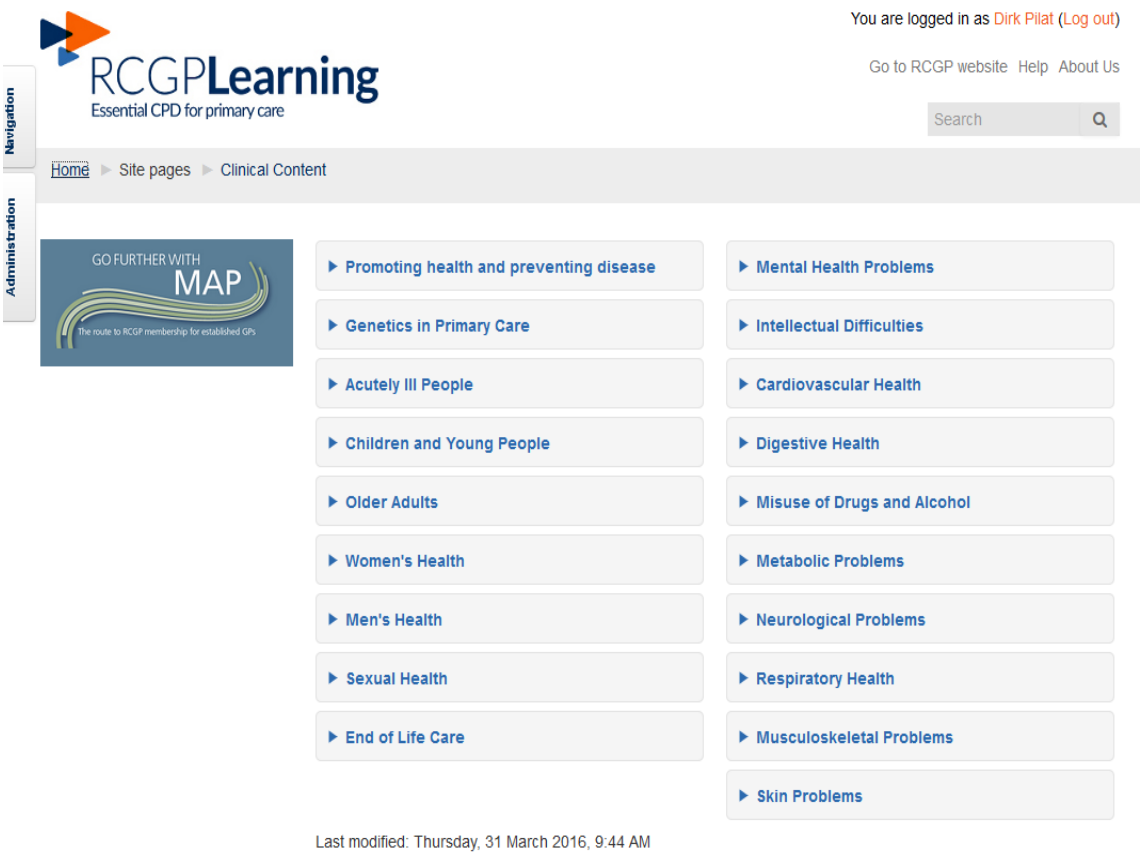

Figure 2. Clinical menu of courses and certifications

In comparison to the Essential Knowledge Updates, courses and blended learning are fully third party funded, hence production of new material usually arises from discussions with public health bodies such as NHS England or Public Health England, charities or pharmaceutical companies. Due to the third party funding, the RCGP is able to make the courses available for members and non-members alike and can often respond to clinical needs that arise in response to a national discussion around particular pertinent health issues such as Dementia, Hyperlipidaemia or health problems being discussed in the popular media, causing health uncertainties in vast ranges of the population, such as coeliac disease. A staff of four administrators works in close cooperation with five part time e-learning fellows and the medical director for e-learning who are all practising general practitioners. Production of a course usually follows a six step quality assurance workflow, starting with a scoping meeting of a peer review group (often a teleconference), in which interested general practitioners, specialists, the funders of the course, a GP author and a GP editor decide on the content and produce a scoping document. After the scoping document is being signed off by the peer review group, a GP author – in cooperation with an experienced editor – produces a first draft which is forwarded to the peer review group for the first round of comments. After incorporation of comments and

suggestions, the course will be built on the OLE's Moodle platform, after which it will undergo a second round of peer reviews, mainly focused on the instructional design. The course will then again be adapted to incorporate the comments of the peer review group, before it will be quality assured by the medical director for e-learning and launched. Just like for EKU, this multilayered review-process ensures not only the content being appropriate for a broad primary care based audience, but also removes factual mistakes. With the learning objectives clearly defined at the beginning of each course, a finished module usually incorporates reflective questions, case-studies, a pre-and post-test and will provide the learner with a certificate for his revalidation portfolio once the post-test has been passed. Each module is being reviewed and updated every two years by a clinician with a special clinical interest the module is covering to make sure the content remains valid and up to date. There are now 79 courses online with 22 further in current production.

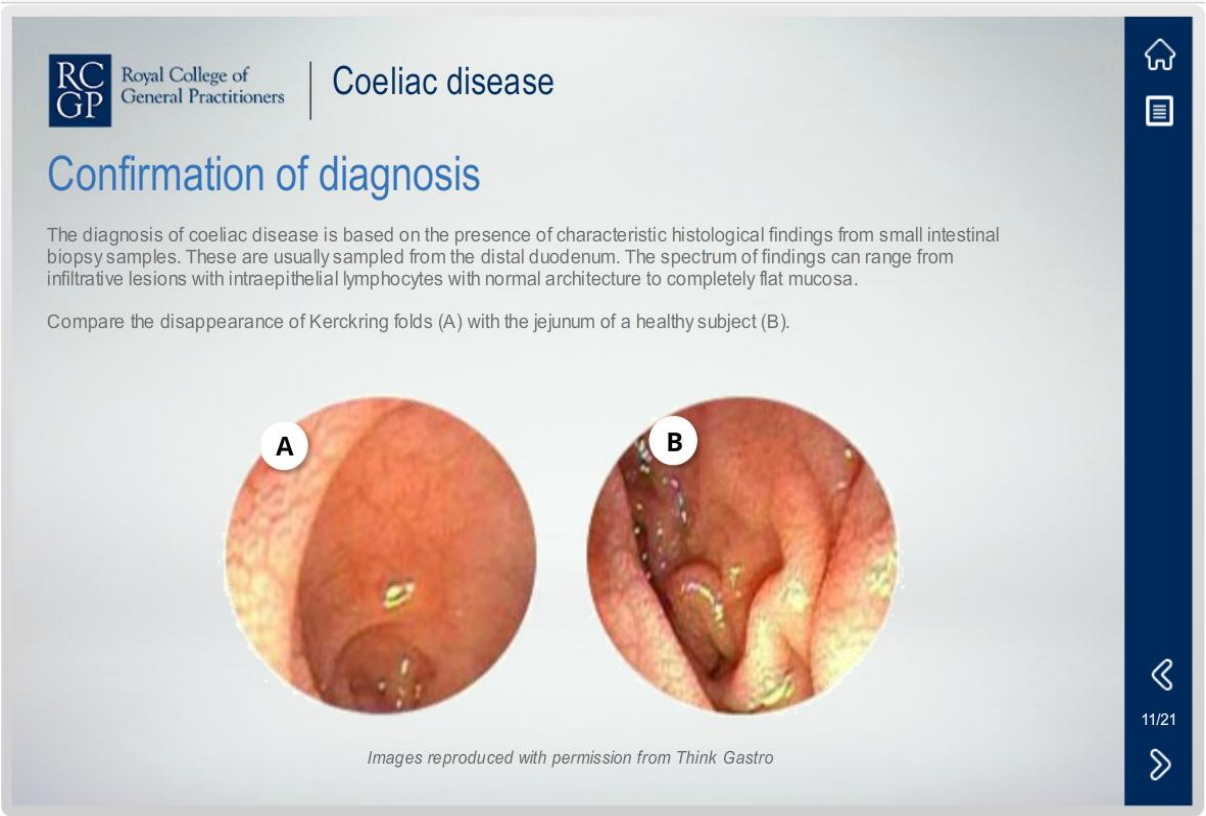

Figure 3. Example page from OLE course

2.3 Usage

Since its inception, the RCGP's OLE has been growing consistently, with unique users growing year on year from 9213 in 2009 to 30,938 in 2015 and it now has 72,000 registered users. Two qualitative evaluations of EKU and the OLE concluded that both compare favorably to other health related e-learning providers in terms of content and interactivity, with both topics and type of e-learning being unique to the market (Hilton, et al., 2012) (Cavill, 2015). A survey based evaluation of one the courses on improving prescribing in primary care in 2015 showed learners overwhelmingly agreeing that the use of the OLE not only increased their knowledge on prescribing, but also improved their skills at prescribing safely (Knox, et al., 2015). Both branches of the OLE are being used for both CPD and even in pre-specialty education (Hilton, et al., 2012).

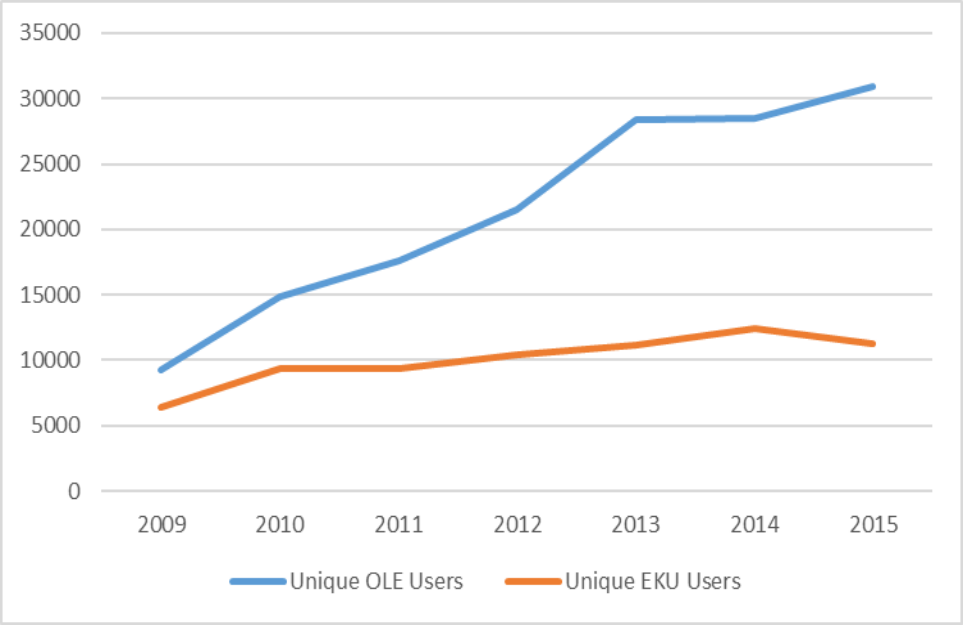

Figure 4. Year on year growth of RCGP online CPD

3. CONCLUSION

The RCGP's OLE demonstrates clearly that a small, mixed team of committed clinicians and admin staff can consistently produce high quality, highly rated CPD in a very competitive environment, thanks to clear and unambiguous workflows. This means that 72,000 registered health care professionals can not only fulfill their regulatory duties and stay up to date but also continuously improve patient care in highly challenging environment for general practice.

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