

Original Article

Maintaining competence: a holistic view of continuous professional development

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Abstract

Continuous professional development (CPD) is regarded as an essential component of working life for radiation therapists and is increasingly being used by professional associations to 'prove' the competence of their members. In the past, CPD activities have primarily been viewed as an individual responsibility, and have focused on maintaining a professional knowledge base and, subsequently, hands-on competency through didactic learning. However, there are drawbacks associated with this model; and concentrating on only one facet of learning ignores other theoretical areas of knowledge acquisition. This article explores several areas of social and organisational theories of learning including social networks, communities of practice, learning organisations, knowledge management, knowledge translation and research utilisation. It is concluded that maintenance of competence after graduation is multilayered and should be viewed in a holistic manner to incorporate some of the relevant elements of the concepts discussed. This article also offers some suggestions for the individual wanting to maximise their educational opportunities beyond traditional models of CPD.

Keywords

Competency; CPD; Professional Development

INTRODUCTION

Radiation therapists typically take for granted the need for education after qualification to maintain professional competency—this has been called continuous professional development (CPD). Many practitioners scramble to accumulate annual points or credits by attending conferences or reading journals to 'prove' they are still entitled to use their credentials. But does this really ensure the ability to work competently with patients and provide them with the best care? Do conferences and in-services really

change the way radiation therapists work? Perhaps one of the most important questions to ask is who is ultimately responsible for maintaining competence; is it the individual radiation therapist, their employer or organisation or their professional body?

The concept of keeping current and/or competent is one that transcends areas of educational, organisational and sociological theory. This article explores some current ideas and suggests that traditional CPD events have little impact on how radiation therapists work, although use and reliance on these events still predominates. It appears that the most effective methods to change behaviours are multilayered and depend not only on

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the individual learner's efforts (as in traditional CPD), but also two other main areas, namely the learner's particular social and organisational environment. It is proposed that lifelong learning with the aim of maintaining professional competency should be considered holistically; in other words incorporating a number of viewpoints and approaches beyond simply 'stamp collecting'¹ CPD points/credits/hours.

WHAT IS CPD?

CPD has been defined as the embodiment of 'both professional learning and personal growth' (p. 33).² It is commonly assumed that today's medical and allied health professionals live in a state of constant change and CPD is essential to maintain and update their specialised knowledge base. It is interesting to note that as long ago as 1872 medical professionals (such as German surgeon Bernhard von Langenbeck) were struggling to keep abreast of new developments:

[My colleague] . . . was ill at ease because he felt unable to control even the area of his own discipline; one suffocates, he once told me, through exposure to the massive body of rapidly growing information.³

THE USE OF CPD TO IMPROVE PROFESSIONAL COMPETENCE

A competent individual is defined as one who has the knowledge, skills and abilities to perform a job to an appropriate standard.⁴ Professional bodies often rely on proof of CPD to provide evidence of clinical competence. But does CPD really improve the performance of the tasks necessary to do our job? Henwood (p. 6)⁵ states that 'there is a broad assumption' in the literature that it does. She suggests that the impact of CPD on clinical competence can be measured by evaluating changes in knowledge, skills and attitude or peer assessment.

However, it could be convincingly argued that the ultimate goal of CPD is that the newly acquired skills, knowledge, or attitude are being *used* in the everyday environment of the learner and that there is a subsequent improvement in

patient care or other 'hard' endpoints such as increased efficiency (like cost savings) or a decrease in errors. Solely measuring or testing for an increase in participant knowledge, skills or positive change in attitude after an educational intervention does not necessarily mean that any of these other endpoints have been reached. Unfortunately measuring so-called transfer of learning to the workplace and linking a change in behaviours or 'bottom line' results such as better patient care to an educational intervention is problematic.⁶ Thus, knowledge testing is often the only level of assessment carried out after a CPD event—and passing a knowledge test is a long way from 'proving' professional competence.

TYPES OF CPD AND THEIR EFFECTIVENESS

In the past, CPD has emphasised technical improvement following a conventional didactic route (defined as a lecture-based, teacher-driven approach). CPD events often comprised learning in the form of courses, conferences, rounds, study days, workshops and the like. Unfortunately, there is considerable evidence that traditional CPD is not effective in maintaining clinical competence using the endpoint of professional performance.^{7,8} In the field of Continuing Medical Education (CME), an analysis of 14 randomised controlled trials evaluating the effect of activities such as conferences, workshops, rounds, etc.⁹ concluded that traditional didactic sessions did not appear to improve physician performance.

A more contemporary view of CPD follows current adult education tenets^{10,11,12} and includes an emphasis on learner-specific goals as well as a focus on 'small group, learner-centred, experiential, reflective, deep and self-directed learning' (p. 868).¹³ This shift in focus is important because, as Cooke (p. 64)¹ has stated, without the reflective and self-evaluative function CPD programs become merely 'stamp collecting', with the practitioner collecting hours/credits/points but not necessarily fulfilling the requirement of 'professional development'.

There is some evidence that interactive/experiential sessions (emphasising participant

involvement and providing an opportunity for hands-on activity) can change professional practice and, in some situations, health outcomes. Examples include case solving, discussion groups, role play, and some types of online CPD.^{14,15}

Other methods of altering practitioner behaviour and/or patient outcomes that have been utilised for CME include the highly focused and collaborative method of combining chart audits with feedback (such as case management rounds). Furthermore, academic detailing (where a health educator visits a physician to provide a short, focused individualised education session using objective evidenced-based information on a specific topic) has also been shown to be effective.^{16,17} Interactivity and specificity combine in the use of individual clinical learning portfolios. A conventional portfolio is structured to reflect a typical learning cycle¹⁸ and has been defined as 'a collection of evidence maintained and presented for a specific purpose'.¹⁹ One would expect to see identification of learning needs or goal setting combined with some evidence of reflection on the educational intervention chosen to fulfil the learning needs (i.e. how did this help the learner's practice and what is the impact on patient care?). The cycle would hopefully be completed with a plan for future directions based on the learning achieved. There would be an accumulation of evidence of educational activity (either paper or electronic) such as a list of journal readings, notes from in-services, certificates of attendance, etc. The same basic principles apply to a clinical learning portfolio, but the goal setting (or questions to be answered) is done somewhat 'on the fly'. Questions arising in daily practice are entered, and answers sought later (at the end of the day or at a time dedicated for study). Canada's Royal College of Physicians and Surgeons use an online Web Diary to track members' CPD activity and award credit for self-directed learning.¹⁵ Learning is thus increasingly related to seeking information such as articles, databases or clinical practice guidelines and requires the appropriate skills to search and appraise information resources. In this way, education is overtly linked to patient care because 'questions about patient care should provide the context for learning' (p. 94).¹⁵

Despite the fact that there is little evidence to support its efficacy; traditional CPD (seminars and reading) make up the most common source of activities for many practitioners. This may be because reading, rounds, seminars, etc. are readily accessible and more familiar to many practitioners, or even because they are the 'nearest and cheapest' available.¹⁹ An audit of Ontario Medical Radiation Technologists (MRTs)²⁰ undertaken in 1999 found the most common educational activities undertaken by sampled MRTs fell under the category of 'traditional' CPD, namely reading, followed by seminars and other didactic events.

THE USE OF CPD BY PROFESSIONAL BODIES TO PROVE COMPETENCE

In an era of increasing public demands for accountability, more and more medical professions are mandating professional development for their practitioners. There is a multitude of ways used to satisfy the requirement of proof of competence (see Table 1 for a few of them). One of the most common is the requirement of a certain number of CPD hours over a specified period of time.

In Ontario, the Health Professions Procedural Code, Schedule 2 of the Regulated Health Professions Act, 1991 (RHPA) requires the health profession colleges (including the College of MRTs) to establish and regulate a quality assurance (QA) program. The QA program should 'assure the quality of the practice of the profession and . . . promote continuing competence among the members'.²¹ As part of the QA program MRTs in Ontario are required to participate in 25 hours of CPD annually. As we have seen in many cases, it is difficult to measure hard outcomes from CPD and in reality this is often not attempted at all. For example, the College of Medical Radiation Technologists of Ontario (CMRTO) does not currently measure patient-related outcomes from the QA program (although a more rigorous method of practice assessment is in development). A formative evaluation of the program in 1999²⁰ stated that 'there is still no hard evidence to confirm the impact of

Table 1. A sample of professional revalidation methods

Profession	Type of revalidation	Mandatory?
Physician (American Board of Medical Specialists)	Multiple choice exams, CPD hours and performance analysis	Yes
Physician (Royal College of Physicians and Surgeons of Canada)	CPD credits, online learning portfolio & online tracking	Yes
Physician (Royal Australasian College of Physicians)	CPD hours, participation in quality improvement initiatives & peer/co-worker/patient assessment	Yes
Radiation Technologist (UK College of Radiographers)	CPD hours & 'CPD Now' software (portfolio)	Yes
Radiation Technologist (US Registry of Radiologic Technologists)	CPD credits or examination/advanced certification	Yes
Radiation Technologist (Australian Institute of Radiography)	CPD credits & portfolio (electronic lodgement available)	Yes
Nursing (Nursing and Midwifery Council, UK)	CPD hours (& a minimum practice hours requirement)	Yes
Nursing (Canadian Association of Nurses in Oncology)	Exam or CPD hours	Yes
Nursing (College of Nurses of Ontario - Canada)	Reflective practice, peer feedback & practice review audits	Yes

the program on the continuing professional competence of its members' (p. 32).

Many authors have pointed out that mandatory CPD programs challenge a basic principle of adult education as they ignore the adult's need for self-direction.^{4,19} In fact Cooke (p. 59)¹ goes so far as to state that, 'forcing practitioners to take part in . . . (CPD) . . . activities may be counterproductive—in adult education it is paramount that the learner is committed to learn and benefit from the educational experience'.

As we have seen, there is evidence that some non-traditional forms of CPD can directly increase practitioner competence. Many CPD programs, however, focus on didactic learning that may, or may not, influence competence. Some CPD systems weight activities according to how interactive they are. The CPD system used by Canadian physicians (MOCOMP) goes one step further and rates activities according to their positive impact on patient care. For example, a physician carrying out an individualised Practice Review must provide direct evidence of improved personal practice with patients. The Practice Review is worth 2 credits per hour compared to 1 credit per hour for attending rounds, reading journals and online CPD.

THE ROLE OF RELATIONSHIPS: INFORMAL AND SOCIAL LEARNING THEORIES

So far learning has been discussed as something that is primarily self-directed, done by an individual following a conscious agenda (such as someone deciding to attend a conference). In contrast, there is growing evidence that significant learning also emerges from the routine social interaction occurring in daily life, which depends greatly on dialogue and human interaction. This type of learning can include observational learning, imitation, modelling, peer discussion as well as 'reflective conversation'.²² Terms used to describe such learning include social networks, social capital, and communities of practice. For radiation therapists, learning how to use a new piece of equipment or a new technique is often facilitated by peer observation and dialogue and the profession itself is founded on collaboration and communication to a high degree.

So-called social networks are important in the dissemination and adoption of new information. Analysis of a social network reveals the amount of 'social capital' (connections among people and the trust and mutual understanding that arise from them) that an individual can draw on. Hawe et al.²³ Coleman²⁴ examined social capital among physicians and concluded

that their performance was positively correlated with their social and professional ties to other physicians. In general, there is a 'mutually beneficial relationship between social connectedness and lifelong learning' (n.p.).²⁵

Communities of practice consist of people informally engaging in a joint enterprise that facilitates learning and have been popularised, in part, by the work of Lave and Wenger.²⁶ The individual's engagement with the community may at first be peripheral (as they are new to the group), but eventually deepens as the learner adapts to the group norms and shared repertoire of language, documents, routines, etc. Lave and Wenger have called this 'situated learning', in other words situated in the learner's role as a member of a community; as opposed to didactic 'classroom' learning which may be abstract and out of context. This type of interaction and exchange of information has been demonstrated in physicians by Confessore.²⁷ One would expect that a typical radiation therapy department would contain intraprofessional and interprofessional communities of practice with rich social networks. However, in a study of innovation spread within an organisation, Ferlie et al.²⁸ demonstrated that a major barrier to knowledge spread was the interdisciplinary environment as each profession had unique knowledge bases and cultures. This may be the disadvantage of informal learning; perhaps as radiation therapists we are also somewhat entrenched in our own professional silos, which may inhibit the spread of new learning.

An example of social learning within a radiation medicine program was demonstrated by Kane,²⁹ who studied the adaptation to a new way of practising using 3-dimensional high precision planning. Much of the initial and vital learning was somewhat haphazard and improvised; by the time new learning was captured in policies and procedures the focus had shifted to a new issue/problem. She described a 4-step process:

- (1) The earliest concerns about using the new technology;
- (2) interpretation of new clues and information provided by the technology;
- (3) developing new understanding; and
- (4) developing new knowledge (p. 104).

Most of the education in the first steps was informal, peer-to-peer learning, supported at first by training from external vendors. In addition, individual and group learning occurred with critical reflection. Case rounds provided a forum for group analysis of new techniques, tips, and hints. Kane's recommendations for change within the program included maximising opportunities for informal staff interaction to allow 'shop talk' and social learning to occur. This type of educational provision is at odds with the usual model of formal rounds, in-services, etc. Given this, perhaps knowledge needed to maintain competence can be accessed within the situated learning of a community of practice, such as information about a new way of working. This will not be unfamiliar territory to many of us who rely on our colleagues for updates, tips and hints as well as mutual problem solving.

THE ROLE OF OUR PLACES OF WORK: ORGANISATIONAL LEARNING, KNOWLEDGE MANAGEMENT AND THE LEARNING ORGANISATION

Theories of organisational learning, knowledge management and the learning organisation concentrate on how the (usually) private sector organisation can maximise performance by improving knowledge uptake. Organisational learning theory contends that individual knowledge (including tacit knowledge) can be transmuted into a body of collective (organisational) knowledge and was first articulated by Cyert and March in 1963.³⁰ By bringing this individually developed knowledge to the forefront, learning is shared with colleagues and the organisation. Knowledge management is generally 'a technical approach aimed at creating ways of disseminating and leveraging knowledge in order to enhance organisational performance' (p. 6).³¹ This may involve databases, performance tools and practice prompts such as online reminders.¹⁷

More recently, the concept of 'the learning organisation' has emerged, and although its definition in the literature is somewhat nebulous Garvin (p. 80)³² has described it as 'an organisation skilled at creating, acquiring and transferring

knowledge, and at modifying its behaviour to reflect new knowledge and insights.’ Peter Senge,³³ arguably the most well known proponent of the learning organisation, contends that a wide, systems view of learning is vital as organisational inter-relationships can cause a small change to result in a large (and perhaps unexpected) effect. Senge also places a strong emphasis on dialogue, especially in terms of team learning, which he contends can lead to a genuine ‘thinking together’ (p. 10).³³ Benefits cited by Senge include open communication between practitioners as well as the creation of linkages and opportunities to exchange information.

With this view, perhaps the responsibility for keeping radiation therapists competent rests on their places of work rather than the individual practitioner. This would assume that our employees are proactive in gathering and maintaining a body of organisational knowledge, and subsequently translating that knowledge into user-friendly performance support tools. In addition, the learning organisation constantly monitors the professional environment and feeds changes/information back to the employees using appropriate educational interventions. As professionals, should radiation therapists be relying on their employers to ensure they have the updated knowledge they need in a readily accessible format?

KNOWLEDGE TRANSLATION AND RESEARCH UTILISATION

CPD keeps practitioners up-to-date with new developments in technology and patient care to allow them to practice in an evidence-based way. However, healthcare services research repeatedly demonstrates a lack of consistency between best practice (as determined by scientific evidence) and clinical care.³⁴ Large gaps also exist between best evidence and practice in the implementation of guidelines.² It is hard to argue that radiation therapists are practising as competent professionals if they are not using best evidence. For example, advice regarding skin care for radiation therapy patients has changed considerably in the last decade to reflect new research findings;³⁵ the radiation therapist who has not kept up with

these changes (such as evidence-based department protocols) may be giving erroneous information to patients. Much of the ‘knowledge gap’ evidence centres on physician practice, especially in the prescribing of drugs. The field of knowledge translation (KT) has emerged as one solution to this problem and focuses on methods of moving research evidence into practice. KT is defined as ‘the effective and timely incorporation of evidence-based information into the practices of health professionals in such a way as to effect optimal healthcare outcomes and maximise the potential of the health system’.³⁶

The field of research utilisation (RU) has been of interest to the nursing profession for more than 30 years.³⁷ RU examines how individual practitioners use research and examines methods to increase evidence-based best practice in the clinical environment. Estabrooks et al.³⁷ conducted a systematic review of studies investigating individual factors influencing research use. She concluded that, apart from individual attitudes to research, there was little evidence to suggest any other factors had an effect (including age, experience, gender, type of education, involvement in research activities and continuing education such as conference attendance). The fields of KT and RU are obviously quite similar, but while RU deals primarily with the individual’s uptake of research, KT also focuses on specific organisational strategies at point of practice (including patient interventions). Both offer a wider view of facilitating competency by easing the adoption of best practice guidelines, individually, organisationally or professionally. Both fields are equally under-researched when it comes to radiation therapy practice; however, the assumption can be made that there are some lessons to be learned from the nursing and medical professions.

CONCLUSION: TOWARDS A HOLISTIC CPD APPROACH

It has always been assumed that the individual is responsible for their own CPD and formal programs usually stress the importance of accumulation of points, credits or hours of professional development with the assumption that this will ensure the practitioner is kept up-to-date. But

as we have seen, it is difficult to equate increased knowledge with patient care outcomes so traditional CPD programs with their focus on individual responsibility might not be the best approach. So should the organisation step up to the challenge? Should places of work be optimising their employees' opportunities for informal learning? How about the professional bodies? They are the public face of radiation therapy—and, in some cases, charged with ensuring the public safety. Is evidence of CPD enough to prove competency?

Perhaps, the answer to the knotty problem of maintaining competency lies in a more holistic view. In this situation, holistic is being used to mean, 'relating to or concerned with wholes or with complete systems rather than with the analysis of, treatment of, or dissection into parts'.³⁸ CPD is how people learn and grow as professionals and is more than reading journals and attending in-services (although these activities certainly have their place). It is the sum and accumulation of one's professional life, which includes daily conversation, the structure and organisation of our places of work and the tools available to do the job. But what can radiation therapists do to expand their CPD horizon to incorporate some of the areas reviewed in this paper? The following are a few suggestions:

1. CPD with a focus on 'small group, learner-centred, experiential, reflective, deep and self-directed learning' (p. 868)¹³ seems to be more effective but this type of CPD is relatively uncommon. Limited CPD time should be spent wisely and rates of return maximised by choosing activities that have some evidence to attest to their effectiveness. Linking education to individual requirements is a must, so the skills must be acquired to assess what individual needs are and to seek out the solutions. Also vitally important is some degree of reflectivity to ensure new knowledge is incorporated into daily practice.
2. It could be argued that radiation therapists often have less professional autonomy than other occupational groups (such as physicians) and practice within a highly regulated environment. It is possible, therefore, that organisational factors may play more of a role than

individual ones in maintaining competency. Thus places of work also need to be places of learning. Ideally departments and hospitals should consciously strive to move towards being learning organisations that provide us with continuous learning opportunities, explicitly link individual performance with organisational performance, promote inquiry (are safe environments to take risks), embrace creative tension and are aware of the environment and continuously interact with it.⁴ More pro-socially, to allow for informal social learning, there must be space for people to meet and an opportunity for them to do so. Highly interactive educational events where people learn from each other, such as case rounds, mentoring and job-shadowing could be utilised by the organisation instead of didactic in-services and presentations.

3. It seems increasingly that interventions that influence practice (and health outcomes) incorporate KT and Knowledge Management strategies that streamline work (such as flowcharts), or reinforce desired outcomes (such as reminders and feedback). This seems to shift the focus again from individual practitioner competency to a more corporate policy that includes the use of information technology and QA approaches. To sound a note of caution, much of the research in these areas describes acquisition of knowledge; there is little proof that increased learning equates to improved patient care outcomes.

To conclude, although CPD may be a factor in improving competence, it is often impossible to separate the effects of the CPD activities from other influences on practice such as peer and patient relationships, the workplace and the individual's culture and background.³⁹ Despite this, professions and professional bodies are increasingly turning to CPD to 'prove' the competence of their members. A compromise is suggested by Nelson,⁴⁰ who suggests that CPD should be promoted but not oversold by professional organisations. He feels that professional organisations should be honest in admitting to the public that the benefits of CPD are limited and that there are considerable difficulties in certifying competence and proving the effect of CPD on professional practice.

Taking a wider, more holistic view of CPD to incorporate some of the themes from social learning, KT and the like can address some of these difficulties. It also seems clear that maintenance of competency should not just be an individual endeavour, although this does not absolve us of individual responsibility! Our places of work can (and should) play an important role. Obviously, 'holistic CPD' could be very hard to quantify, even for a sophisticated reflective learner. In addition, professional organisations still face the challenge of finding meaningful measures of professional competency to ensure public safety above and beyond CPD accumulation. This article is a very preliminary look at a very large and convoluted area. Nonetheless, an informed awareness of how we can optimally learn and how we can maximise our opportunities to do so is an important and necessary starting point.

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