Final Research Report

I. Identification of researcher(s) and project

Project Title: Starting E-Learning Courses in the Context of Multiple Goal Pursuit: An Initial Exploration Among Health Professionals

Research Team: Adam Gavarkovs, PhD,[1] Sharon Ho, BSc,[1] Kate Campbell, MSc,[1] Ryan Brydges, PhD,[2] William McCauley, MD, MHPE,[3] Brenna Lynn, PhD[1]

1Faculty of Medicine, University of British Columbia
2Schulich School of Medicine & Dentistry, Western University
3Temerty Faculty of Medicine, University of Toronto

II. Objectives/purpose of the research

Health professionals must engage in continuing professional development (CPD) to keep their knowledge and skills up-to-date amidst evolving best practices, technological innovations, and emerging health challenges. Brief (1-2 hour) online courses are an appealing CPD modality for health professionals (Cassidy et al., 2023; Cook et al., 2018). Their self-paced manner can overcome scheduling difficulties which often limit participation in synchronous CPD (Cook, 2014), and their interactive multimedia elements can support learning retention and transfer (Cook et al., 2010). Consequently, many university-based CPD offices offer online courses to the health professionals they serve (AAMC, 2021). For example, the University of British Columbia's CPD office (UBC CPD) offers over 75 online courses to physicians, nurse practitioners, midwives, and other health professionals. To encourage greater completion rates, many of these courses are offered for free. However, a substantial proportion of health professionals who register for free online courses never start them. At UBC CPD, for example, approximately 35% of physicians who registered for a free, accredited online course in 2025 had not started it as of March 2026, representing over a thousand physicians. This issue, though not well documented in the literature, is prevalent across university CPD offices.

Despite the prevalence of 'non-starters' in online asynchronous CPD, research has yet to explore why health professionals do not start online courses after registration. Consequently, educators have little insight about whether their efforts to encourage starting are helpful or harmful. For example, sending reminder emails is a simple strategy that may be helpful if health professionals tend to forget about courses due to poor time management (Bälter et al., 2023). Alternatively, health professionals may intentionally deprioritize courses due to more urgent learning needs or clinical demands. In these cases, reminder emails may be bothersome or even demotivating. Indeed, some studies of email prompts have reported negative effects on course engagement (Baker et al., 2016). To better understand the motivational dynamics underlying the decision to start (or not start) online courses, and the potential effects of interventions aimed to support starting, we posed the

following research question: *Why do health professionals not start free online courses after registration?*

III. Summary of key literature that allows readers to understand the motivation for the research study

Several studies have explored barriers to CPD, including online courses, with a lack of time emerging as the most significant barrier (Hanlon et al., 2021; Ikenwilo & Skåtun, 2014; Jeong et al., 2018; Okpalauwaekwe et al., 2024). However, studies have not differentiated between the potentially unique factors that inform decisions to register, decisions to start (among those who have registered), and decisions to complete (among those who have started). Studies of Massive Open Online Courses (MOOCs) have differentiated between these decision points, though they have primarily focused on factors shaping completion, not starting. The MOOC literature highlights that goal setting is predictive of course completion (Handoko et al., 2019), whereas competing demands, poor social presence, and mismatched expectations regarding course content are barriers to completion (Eriksson et al., 2017).

IV. Methodology

Study design

We conducted semi-structured interviews with health professionals who had registered for, but not yet started, online courses to explore their reasons for registering but not starting. Our study was situated in a constructivist epistemology and employing a combined deductive and inductive approach (Brooks et al., 2015).

Participants

Practicing health professionals were eligible to participate if they had registered for a free online course offered by UBC CPD or Western University's CPD office (Western CPD) between two and four weeks prior to recruitment, and had not started it. We selected a four-week maximum because we reasoned these health professionals would still be able to recall their initial reasons for registering. We selected a two-week minimum because we aimed to study longer-term non-starters, who we reasoned may be a more appropriate target for support interventions versus those who spontaneously start a course within a week or two of registering. To identify eligible health professionals, staff at UBC CPD and Western CPD queried their respective learning management systems to identify those who had registered for an online course two to four weeks earlier but had not started it. We found a large number of eligible health professionals at UBC CPD, so a random sample was emailed an invitation containing study information and a link to the consent form; all eligible health professionals at Western CPD were emailed. To encourage participation, the consent form described the study as an investigation into how health professionals manage their completion of online courses, rather than an investigation of non-starters. Thirteen participants agreed to participate, including family physicians (n = 4), specialist physicians (n = 3), registered nurses (n = 5), and licensed practical nurses (n = 1). Twelve participants were recruited from UBC CPD and one participant was recruited from Western CPD. Several participants had registered for but not started more than one course during the recruitment window. None of the participants we interviewed completed their course(s) between consenting to participate and completing their interview.

Data collection

Participants completed a semi-structured interview with AG or SH, who used the same interview guide throughout (see Appendix A). Questions explored how participants found courses, their reasons for registering, their reasons for not yet starting, competing demands

that may have influenced their decision, and their views on interventions to support course completion, particularly the use of reminder emails. Interviews were conducted virtually, recorded, and transcribed verbatim using the videoconferencing software's automatic transcription feature. Interviews lasted between 20 and 60 minutes. Participants received equal compensation for participating regardless of profession.

Data analysis

We analyzed our data using template analysis (Brooks et al., 2015). As a team, we initially familiarized ourselves with the data by reading a subset of transcripts. Second, each team member independently coded 3-5 randomly selected transcripts using a set of initial codes sensitized by theories of motivation. For example, the code 'relevance to practice' was meant to capture an expected source of value from CPD and the code 'energy for CPD' was meant to capture a source of positive expectations that valued outcomes could be attained. In addition to these deductive codes, we also attended to novel codes and themes our team generated via our idiosyncratic readings of the transcripts. Third, we combined our initial codes into a consensus coding template. Fourth, AG applied the coding template to the full dataset. Finally, we reviewed the results of coding and iteratively generated themes over the course of several meetings.

Reflexivity

Our team contributed multiple perspectives to the study sampling, analysis, and interpretation phases: AG is an education researcher with interests in motivation and self-regulation, SH is an undergraduate research assistant with interests in motivated cognition, KC is a senior manager with interests in online learning and learning-experience design, RB is an educational researcher with interests in self- and co-regulation, WM is a physician and educational leader with interests in CPD, and BL is an educational researcher and leader with interests in CPD.

V. Key findings

Results

We generated three themes that appear to illustrate why health professionals do not start free e-learning courses: (1) courses as 'nice to know' but not essential, (2) the paradox of deadlines, and (3) planning as emotional risk-taking.

Courses as 'nice to know' but not essential

Participants typically became aware of courses by browsing a CPD office's website or reading emails promoting new courses, rather than by searching for education on a specific topic. Participants decided to register for courses because they perceived them as relevant to their current scope of practice or helpful in navigating a recent or anticipated shift in their scope or practice context. Despite perceiving courses as clinically relevant, participants frequently described content as 'nice to know' rather than essential or urgently needed for their current practice. This sense of non-urgency contributed to putting courses off. On the other hand, participants perceived content as urgent and prioritized courses when they judged themselves as having a large knowledge gap and when they frequently saw related patients or cases in their practice. Though physicians noted the value of CPD credits, most did not consider them a primary driver for registration, unless they were nearing their credit deadline and were behind in their credit requirement.

The paradox of (no) deadlines

The courses that participants registered for did not have a deadline or expiry date, and thus could be completed at any time. Participants appreciated this flexibility and it contributed to their decision to register for courses. However, knowing that their courses would still be

there in the future, participants often prioritized other professional and personal demands. Participants described busy schedules, work-life balance decisions, and family obligations as contributing to decisions to delay courses. Even when time was available, such as in the evenings after work, participants sometimes delayed courses because they felt they lacked the energy required for online courses.

Participants felt that other learning formats, such as videos, required less cognitive effort and thus could be completed when they lacked the energy for online courses. Several participants also suggested they might be more likely to start course content if it was available in podcast format, which they could consume while multitasking.

Planning as emotional risk-taking

Few participants described making concrete plans to complete the courses they registered for, implying instead a vague intention to capitalize on time when it became available. Others added courses to their to-do list with other personal and professional tasks, where courses were at risk of being pushed down the list.

Participants seemed to avoid planning as a strategy to protect themselves from the disappointment of not following through, recognizing all the other demands they had on their plate. This anticipatory emotional response also shaped many participants' thoughts on reminder emails. While some participants believed reminders could be helpful, others anticipated negative reactions such as guilt, shame, or stress, if reminded they had not completed a course. Participants thus expressed skepticism concerning the positive effects of reminder emails on their emotional state and likelihood to start the course.

VI. Key impacts on Continuing Education and/or the community (depending on the project)

Our findings suggest that three interrelated factors shape whether health professionals defer starting courses: that course content is not perceived as essential, that there is no deadline for completion, and that specific plans for completion are not made. The health professionals we interviewed did not simply forget about CPD. Rather, their decisions not to start courses reflect an ongoing negotiation between multiple learning needs, clinical responsibilities, and personal demands. Our results have implications for theory on CPD, motivation, and multiple goal regulation, and suggest that seemingly simple strategies to encourage starting may sometimes have unintended emotional consequences.

Though participants registered for courses because they were clinically relevant, many considered course content as 'nice to know' rather than 'need to know'. When course content was not deemed essential, it was easier to delay starting courses. This first finding aligns with evidence relating to the perceived *urgency* of an action or goal. Evidence suggests that perceived urgency increases as the time left to complete the action or goal decreases, which can service as a predictor of prioritization, especially when the consequences of not achieving the goal are high (Ballard et al., 2018). Because health professionals sometimes overestimate their knowledge in a particular area (Davis et al., 2006; Eva & Regehr, 2005), incorporating brief self-assessment questions into course promotions may help highlight knowledge gaps and increase perceived urgency (Knox, 1980).

The second factor that influenced starting was a deadline. Paradoxically, course flexibility contributed to participants' decision to register, yet also made it easier for them to delay their course. This finding again aligns with the concept of urgency, another source of which is the prospect of losing access to course content at some impending time. When a course will always be available tomorrow, it becomes easier to deprioritize today (Steel & König,

2006). Although adding deadlines to online courses might increase starting rates, we expect that such deadlines would likely be perceived as artificial or burdensome. A more promising strategy for CPD educators, perhaps, might be to help health professionals make plans within the context of having no set deadlines, which relates to our third finding.

The third factor that influenced starting was having a plan to start upon registering. Research on goal setting shows that setting specific goals combined with implementation intentions (i.e., if-then plans to make progress or overcome anticipated obstacles) leads to greater progress (Gollwitzer & Sheeran, 2006; Handoko et al., 2019; Koestner et al., 2002; Locke & Latham, 2002; Sheeran et al., 2025). However, we found that our participants rarely made specific plans for course completion, even while maintaining an optimistic intention to eventually start the courses they had registered for. When plans were made, they were limited to putting courses on to-do lists with many other tasks. Without specific plans, courses were easily deprioritized. Health professionals appeared to avoid planning because they did not want to set themselves up for disappointment by failing to follow through. Many participants worried that making plans or receiving reminder emails would trigger feelings of guilt, shame, or stress, though some saw reminder emails as nonetheless helpful. These reported worries have merit; research has shown that feedback regarding inadequate progress towards goals or plans can trigger negative emotions (Carver & Scheier, 1990; Neal et al., 2023). Therefore, while prompts for creating implementation intentions or reminder emails may help some health professionals to start courses under certain circumstances (Saddawi-Konefka et al., 2017), care must be taken to mitigate unintended emotional consequences. Health professionals could be offered the *option* to create implementation intentions or opt in to reminder emails, and steps could be taken to normalize and even encourage the possibility of having to revise plans or even abandon an intention to complete a course. If the courses that health professionals tend to defer are those that are more 'nice to know' versus 'need to know', then not starting them may have a negligible impact on their practice. Future research should test the effectiveness and psychological impact of these approaches.

While our study sought analytical generalizability by drawing on established theories of multiple goal regulation, our sample was nonetheless limited to health professionals who had registered for but not started free online courses. Focusing on non-starters allowed us to explore a population that may benefit from additional support, but investigating the reasons why 'starters' start online courses right away or only after a few days may sharpen our theoretical understanding of prioritization of CPD.

VII. Conclusion

This study provides insight into a behaviour frequently observed but rarely examined in CPD. Rather than simply forgetting about the courses they signed up for, health professionals appear to take deliberate steps to juggle multiple learning needs with other professional and personal demands, while also protecting themselves from the emotional cost of not following through. Our findings emphasize that, while planning prompts and reminder emails may be effective for some, they must be implemented thoughtfully to protect against unintended negative consequences.

VIII. Abbreviated bibliography

AAMC. (2021). *Academic CME/CPD in the United States and Canada: Results of the 2021 AAMC-SACME Harrison Survey*. AAMC.

Baker, R., Evans, B., & Dee, T. (2016). A Randomized Experiment Testing the Efficacy of a Scheduling Nudge in a Massive Open Online Course (MOOC). *AERA Open*, *2*(4), 233285841667400. https://doi.org/10.1177/2332858416674007

Ballard, T., Vancouver, J. B., & Neal, A. (2018). On the pursuit of multiple goals with different deadlines. *Journal of Applied Psychology*, *103*(11), 1242–1264. https://doi.org/10.1037/apl0000304

Bälter, O., Jemstedt, A., Javan Abraham, F., Persson Osowski, C., Mugisha, R., & Bälter, K. (2023). Effect of Personalized Email-Based Reminders on Participants' Timeliness in an Online Education Program: Randomized Controlled Trial. *JMIR Formative Research*, *7*, e43977. https://doi.org/10.2196/43977

Brooks, J., McCluskey, S., Turley, E., & King, N. (2015). The Utility of Template Analysis in Qualitative Psychology Research. *Qualitative Research in Psychology*, *12*(2), 202–222. https://doi.org/10.1080/14780887.2014.955224

Carver, C. S., & Scheier, M. F. (1990). Origins and functions of positive and negative affect: A control-process view. *Psychological Review*, *97*(1), 19–35. https://doi.org/10.1037/0033-295X.97.1.19

Cassidy, D., Edwards, G., Bruen, C., Kelly, H., Arnett, R., & Illing, J. (2023). Are we ever going back? Exploring the views of health professionals on postpandemic continuing professional development modalities. *Journal of Continuing Education in the Health Professions*, *43*(3), 172–180. https://doi.org/10.1097/CEH.0000000000000482

Cook, D. A. (2014). The value of online learning and MRI: Finding a niche for expensive technologies. *Medical Teacher*, *36*(11), 965–972. https://doi.org/10.3109/0142159X.2014.917284

Cook, D. A., Blachman, M. J., Price, D. W., West, C. P., Baasch Thomas, B. L., Berger, R. A., & Wittich, C. M. (2018). Educational Technologies for Physician Continuous Professional Development: A National Survey. *Academic Medicine*, *93*(1), 104–112. https://doi.org/10.1097/ACM.0000000000001817

Cook, D. A., Levinson, A. J., Garside, S., Dupras, D. M., Erwin, P. J., & Montori, V. M. (2010). Instructional Design Variations in Internet-Based Learning for Health Professions Education: A Systematic Review and Meta-Analysis: *Academic Medicine*, *85*(5), 909–922. https://doi.org/10.1097/ACM.0b013e3181d6c319

Davis, D. A., Mazmanian, P. E., Fordis, M., Van Harrison, R., Thorpe, K. E., & Perrier, L. (2006). Accuracy of physician self-assessment compared with observed measures of competence: A systematic review. *JAMA*, *296*(9), 1094. https://doi.org/10.1001/jama.296.9.1094

Eriksson, T., Adawi, T., & Stöhr, C. (2017). "Time is the bottleneck": A qualitative study exploring why learners drop out of MOOCs. *Journal of Computing in Higher Education*, *29*(1), 133–146. https://doi.org/10.1007/s12528-016-9127-8

Eva, K. W., & Regehr, G. (2005). Self-Assessment in the Health Professions: A Reformulation and Research Agenda: *Academic Medicine*, *80*(Supplement), S46–S54. https://doi.org/10.1097/00001888-200510001-00015

Gollwitzer, P. M., & Sheeran, P. (2006). Implementation Intentions and Goal Achievement: A Meta-analysis of Effects and Processes. In *Advances in Experimental Social Psychology* (Vol. 38, pp. 69–119). Elsevier. https://doi.org/10.1016/S0065-2601(06)38002-1

Handoko, E., Gronseth, S. L., McNeil, S. G., Bonk, C. J., & Robin, B. R. (2019). Goal Setting and MOOC Completion. *The International Review of Research in Open and Distributed Learning*, *20*(3). https://doi.org/10.19173/irrodl.v20i4.4270

Hanlon, H. R., Prihodova, L., Russell, T., Donegan, D., O'Shaughnessy, A., & Hoey, H. (2021). Doctors' engagement with a formal system of continuing professional development in Ireland: A qualitative study in perceived benefits, barriers and potential improvements. *BMJ Open*, *11*(11), e049204. https://doi.org/10.1136/bmjopen-2021-049204

Ikenwilo, D., & Skåtun, D. (2014). Perceived need and barriers to continuing professional development among doctors. *Health Policy*, *117*(2), 195–202. https://doi.org/10.1016/j.healthpol.2014.04.006

Jeong, D., Presseau, J., ElChamaa, R., Naumann, D. N., Mascaro, C., Luconi, F., Smith, K. M., & Kitto, S. (2018). Barriers and facilitators to self-directed learning in continuing professional development for physicians in Canada: A scoping review. *Academic Medicine*, *93*(8), 1245–1254. https://doi.org/10.1097/ACM.0000000000002237

Knox, A. B. (1980). Proficiency theory of adult learning. *Contemporary Educational Psychology*, *5*(4), 378–404. https://doi.org/10.1016/0361-476X(80)90059-4

Koestner, R., Lekes, N., Powers, T. A., & Chicoine, E. (2002). Attaining personal goals: Self-concordance plus implementation intentions equals success. *Journal of Personality and Social Psychology*, *83*(1), 231–244. https://doi.org/10.1037/0022-3514.83.1.231

Locke, E. A., & Latham, G. P. (2002). Building a practically useful theory of goal setting and task motivation: A 35-year odyssey. *American Psychologist*, *57*(9), 705–717. https://doi.org/10.1037/0003-066X.57.9.705

Neal, A., Gee, P., Ballard, T., Vancouver, J. B., Yeo, G., Chandra, V., & Ambrose, L. (2023). Changes in affect during the pursuit of performance goals. *Emotion*, *23*(5), 1472–1491. https://doi.org/10.1037/emo0001164

Okpalauwaekwe, U., Holinaty, C., Smith-Windsor, T., Barton, J. W., & MacLean, C. (2024). From field of dreams to back to the future? Exploring barriers to participating in continuing professional development (CPD) programs. *BMC Medical Education*, *24*(1), 106. https://doi.org/10.1186/s12909-024-05038-5

Saddawi-Konefka, D., Baker, K., Guarino, A., Burns, S. M., Oettingen, G., Gollwitzer, P. M., & Charnin, J. E. (2017). Changing Resident Physician Studying Behaviors: A Randomized, Comparative Effectiveness Trial of Goal Setting Versus Use of WOOP. *Journal of Graduate Medical Education*, *9*(4), 451–457. https://doi.org/10.4300/JGME-D-16-00703.1

Sheeran, P., Listrom, O., & Gollwitzer, P. M. (2025). The when and how of planning: Meta-analysis of the scope and components of implementation intentions in 642 tests. *European Review of Social Psychology*, *36*(1), 162–194. https://doi.org/10.1080/10463283.2024.2334563

Steel, P., & König, C. J. (2006). Integrating Theories of Motivation. *Academy of Management Review*, *31*(4), 889–913. https://doi.org/10.5465/amr.2006.22527462