Attitudes, Perceived Benefits, and Experiences of Engagement With Professional Competence Schemes for Doctors in Ireland: Findings From a National Survey

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Introduction: This study aimed to assess the attitudes, perceived benefits, and experiences of engaging with a formal system of continuing professional development (CPD) in the form of Professional Competence Schemes (PCSs) among doctors in Ireland.

Methods: The study utilized an anonymous online survey measure with both open-ended and Likert-scale questions. The measure examined general attitudes, perceived impact, and experiences of engagement with PCS. This study examines the scale items only. All 4350 doctors enrolled on a PCS were invited through email to complete the survey. One thousand four hundred eight doctors participated, indicating a response rate of 32%.

Results: Descriptive and inferential statistics (analysis of variance and Kruskal–Wallis) were performed on the scale items using IBM SPSS statistics, with group comparisons examining differences in responses according to gender and current primary role. A majority (80%) of respondents had positive overall attitudes to PCS. Most participants reported that CPD positively impacts their practice across a wide range of areas, particularly patient care. Most participants reported positive experiences engaging with PCS, although a minority reported difficulties, including lack of time to participate in and record CPD activities, difficulties obtaining evidence of participation, and feeling that their CPD activities are not easily captured by the PCS system. Significant differences in responses according to role were found for overall attitudes (confidence interval = 95%, P < .00) and overall experiences of PCS (confidence interval = 95%, P < .00) with nonconsultant hospital doctors emerging as a particularly vulnerable group with less positive attitudes and experiences.

Discussion: Across the board overall attitudes, perceived impact and experiences of PCS were positive, and indicate that doctors feel that PCS is a valuable and beneficial activity. However, a minority of respondents reported experiencing difficulties with engagement, and these areas of difficulty represent targets for future improvement.

Keywords: continuing medical education, continuing professional development

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Continuing professional development (CPD) is increasingly becoming a mandatory requirement in medicine and is now frequently a part of recertification or revalidation procedures for doctors in many countries, including the Republic of Ireland. Studies have consistently shown that CPD is effective at improving both doctors’ performance and, to a lesser extent, patient outcomes, although the degree of improvement tends to depend on the type of CPD activity. Research has demonstrated interactive CPD activities which use multiple learning methods used over a longer period to be most effective at producing change in both patient and doctor outcomes. Common and popular forms of CPD, such as didactic lectures and online courses, have been found to have little correlation with doctors’ practice and patient outcomes. Results of studies examining the impact of audit on practice and patient outcomes have been mixed to positive. Some systems of CPD, such as the US Maintenance of Certification (MOC) program, also incorporate assessments of competence, in the form of a formal examination. Results of studies examining the impact of such measures are mixed; doctors who are consistently maintaining
their certification have been found to have significantly higher scores on formal examinations,8 and higher scores on such formal examinations have been associated with improved quality of care for patients on some measures but not others.9 However, research explicitly linking the introduction of assessments of competence to physician performance or patient outcomes is lacking, and it has been argued that the MOC examinations do not accurately capture how physicians apply and use knowledge in practice.10

ATTITUDES TOWARD CPD AS A MANDATORY REQUIREMENT

Despite the benefits that CPD can have on practice outcomes, responses from doctors to the introduction of formal CPD systems have been mixed. Doctors generally agree on the necessity and benefits of engaging in CPD throughout their professional lives,6 but formal systems of mandatory CPD have been seen by some doctors as an additional and unnecessary burden focused on collecting points rather than meaningful change.3,4,11,12 Doctors have expressed feelings that mandatory CPD may be more focused on requirements than on their own learning and patient outcomes.13–15 Such negative perceptions of formal CPD may in fact impact on doctors’ engagement with CPD activities, as negative attitudes have been shown to affect motivation, particularly when the perceived cost of completing a task is seen as being higher than the perceived benefit.16 A majority of the research into doctors’ perceptions of formal CPD in Europe has been conducted before the introduction of formal CPD schemes in their country of practice, although recent work examines perceptions of formal CPD after the introduction of the MOC program in the United States, and indicates that although physicians are generally positive about the concept of MOC, they are more negative about its execution in practice.17 Only a minority of US physicians surveyed felt that MOC activities were relevant to their patients, worth the time taken to participate, or easily integrated into their everyday practice, with a majority indicating that they felt that MOC was a burden.7 Thus, it is vital to examine attitudes toward CPD among doctors who are currently participating in any mandatory CPD process, to assess and address any attitudes and difficulties which may be impeding successful participation, as well as to expand on the existing knowledge base and identify any areas for improvement to maximize engagement with CPD.

EXPERIENCES AND CHALLENGES OF ENGAGING WITH CPD

Previous studies have frequently reported that time, cost, and location of CPD activities represent key challenges to successful CPD engagement.18,19 Fatigue, staff shortages, a desire for a better work-life balance and a perceived lack of CPD activities which are relevant to doctors’ own practice have also been raised as factors which may impede engagement.13,20,21 These factors likely reflect the fast-paced nature of modern medical practice as well as economic and situational factors. This could particularly be the case in Ireland, where, much as in other European countries, the health system has faced significant challenges after the economic recession, with budget cuts to the funding of the health service and the resulting staff shortages contributing to a high-pressure working environment.18,22 The delivery of hospital care relies heavily on nonconsultant hospital doctors (NCHDs), approximately half of whom are doctors in training (50.8%), with the remaining 49.2% in nontraining posts.23 The purpose of these posts is service delivery, and doctors who occupy them usually hold short-term contracts, and are most commonly registered on the general or supervised divisions.24 Another shift in the medical workforce in Ireland in recent years is the growing proportion of women entering medicine.

Research is lacking into the experiences and challenges of engaging with Ireland’s system of mandatory CPD in general, as is research with a particular focus on the specifics of the medical workforce in Ireland. As of 2011, all doctors working in Ireland who are not enrolled in a postgraduate training program are required to engage with a formal system of CPD in the form of a Professional Competence Scheme (PCS), which incorporates engagement with self-directed learning activities relevant to doctors’ individual scope of practice.25 As part of the requirements of PCSs, doctors claim CPD credits for completed CPD activities; they must complete 50 hours total of CPD activities and one clinical audit per year.25 There is no prescribed PCS curriculum; CPD activities are chosen by doctors based on relevance to their practice and their own individual learning needs; however, all doctors must complete a prescribed number of hours of activities each year across the internal (practice evaluation and development), external (maintenance of knowledge and skills), personal learning, and research and teaching categories.25 In addition, doctors must assign at least one CPD credit to each of the eight domains of good professional practice over a five-year period, which describe areas of competency that doctors should engage with, from patient care, to management, to professionalism.21,26

PURPOSE OF THIS STUDY

This study was conducted to assess the attitudes and experiences of doctors in engaging with the Royal College of Physicians of Ireland (RCPI) PCSs and to identify any factors which may be impeding engagement. Relatively little research in this area has been performed since the formal system of CPD has been established in Ireland, and there is a dearth of research into doctors’ perceptions of the impact of CPD on various areas of practice in general. The study aimed to address this data gap and included doctors working in both hospital and nonclinical settings, to obtain a wide-ranging view of doctors’ experiences. The study also aimed to identify whether there were significant differences in experiences, attitudes, and perceived impact of CPD between grades of doctors. To identify any particular areas for improvement, so that future interventions may be tailored to suit the specific needs of a particular group, results were compared across a current primary role. Gender differences were also examined. This study presents an overview of the key findings of the study.

METHOD

Design

The study utilized a survey measure with both open-ended and Likert-scale questions. In the absence of an existing and appropriate standardized survey measure, a questionnaire was developed based on the practical objectives of the study (ie, to identify areas with the potential for improvement), prior
research into doctors’ experiences of formal systems of CPD, and in consultation with a working group of experts. The survey examines general attitudes toward PCS, perceived impact across a wide range of practice areas, and experiences of engagement with various areas of PCS. The Likert scale items used a five-point scale (strongly disagree, disagree, neither agree nor disagree, agree, and strongly agree) with an N/A option for the experience and perceptions of impact items. For the purposes of this study, analysis was limited to the attitudes, perceived impact, and experiences of PCS scale items. Participants were asked to rate their agreement on a five-point scale to a number of statements relating to their attitudes, perceived benefits, and experiences of PCS. The study did not include open-ended comments on each scale item, but rather included a final optional open-ended comment item at the end of the survey. Detailed analysis of these comments will be reported qualitatively in full elsewhere.

Procedure
The RCPI is the largest provider of PCS in Ireland, operating 11 PCSs nationwide. All participants enrolled in a 2017/2018 RCPI PCS were invited by email to complete an anonymous online survey. After the initial email, participants were sent two additional reminder emails, spaced three weeks apart. The survey was open for seven weeks in total. When taking part, participants were first required to read an online information sheet stating that completion of the survey indicated consent. The information sheet outlined the purpose of the study, and information on anonymization and data storage. The study was completely anonymous, with no identifying information collected or reported. Participants were free to withdraw from the study at any point up until submission of their survey, as at this point data would be unidentifiable and thus unavaiable for individual withdrawal. The data were stored in accordance with the Freedom of Information and Data Protection Acts. Participants then proceeded to the online survey at SurveyMonkey.com. Participants were eligible to claim CPD credit for their participation. Ethical approval for this study was obtained from the RCPI Research Ethics Committee.

Participants
One thousand four hundred eight participants (701 men and 707 women) from a population of 4350 doctors currently enrolled on an RCPI PCS agreed to take part. Participants were also classified according to their current primary role as follows: consultants, NCHDs, and others. Consultants are senior hospital doctors who have completed all specialist training and are enrolled on the specialist register in their selected specialty. NCHDs are junior hospital doctors who are working in a hospital under the supervision of a consultant and gaining postgraduate medical training and experience. NCHDs who are not enrolled in a formal postgraduate training program must enroll in a PCS relevant to their intended practice. Those enrolled in RCPI PCSs are generally working in internal medicine, pediatrics, obstetrics, gynecology, pathology, and emergency medicine. Doctors not engaged in frontline patient care and who are neither consultants nor NCHDs formed the third group; this group may refer to doctors working in a wide range of areas, from public health, occupational health, research, management, and other areas.

Note for international readers: in Ireland, primary care medicine is provided by general practitioners (GPs) who work in the community and generally do not work in hospitals. The postgraduate training program for GPs is provided by the Irish College of GPs, and as such, this group of doctors is not featured in this study.

Analysis
Descriptive and inferential analyses (analysis of variance where data were normally distributed and Kruskal–Wallis for non-normal data) using IBM SPSS statistics version 25 were performed on the scale items relating to attitudes, perceived benefits, and experiences of engaging with PCS. Group comparisons were conducted according to gender and current primary role. The P-value was set at .05, and post-hoc analysis adjustments (Tukey, Bonferroni) to account for multiple comparisons were performed by SPSS. The “agree” and “strongly agree” responses, and the “disagree” and “strongly disagree” responses have been collapsed into “agree” and “disagree” in the figures for readability purposes; however, analysis was conducted using the original five-point scale.

RESULTS
The survey response rate was 32%. This response rate is typical of online survey research,27,28 and the demographic breakdown of participants was in line with that of the overall PCS population in terms of age, training body, gender (Table 1), and proportion meeting their PCS requirements, suggesting that the study sample is similar to that of the physician population at large.

| TABLE 1. Demographic Information of Study Participants Versus Overall PCS Population |
|---------------------------------|-------------------------------|-------------------------------|
| Age                            | Survey Sample | Total PCS Population |
| <25 y                          | 9 (<1%)        | 23 (<1%)          |
| 25–35 y                        | 279 (20%)      | 1157 (26%)        |
| 36–45 y                        | 348 (25%)      | 1229 (28%)        |
| 46–55 y                        | 383 (27%)      | 1161 (26%)        |
| 56–65 y                        | 280 (20%)      | 656 (15%)         |
| >65 y                          | 109 (8%)       | 204 (5%)          |
| Total                          | 1408           | 4430 (17 missing) |
| Training body                  |                |                  |
| Irish college of higher medicine | 742 (53%)      | 3060 (69%)        |
| Faculty of public health medicine | 99 (7%)        | 131 (3%)          |
| Faculty of pathology           | 134 (10%)      | 339 (8%)          |
| Faculty of paediatrics         | 187 (13%)      | 494 (11%)         |
| Institute of obstetricians and gynecologists | 148 (10%) | 331 (7%) |
| Faculty of occupational medicine | 60 (4%)        | 91 (2%)           |
| No longer enrolled on PCS      | 38 (3%)        | N/A               |
| Total                          | 1408           | 4446              |
| Current primary role           |                |                  |
| Consultant                     | 646 (46%)      | Not routinely recorded by PCS |
| Nonconsultant hospital doctor (NCHD) | 369 (26%) | Not routinely recorded by PCS |
| Doctors not engaged in direct frontline patient care | 393 (28%) | Not routinely recorded by PCS |
| Total                          | 1408           |                  |
| Gender                         |                |                  |
| Male                           | 701 (50%)      | 2381 (54%)        |
| Female                         | 707 (50%)      | 2064 (46%)        |
| Total                          | 1408           | 4445              |

NCHD indicates nonconsultant hospital doctor; PCS, Professional Competence Scheme.
Population demographic information is provided in Table 1. Because there were some N/A responses (Table 2) and some missing data across the attitude (<5% missing responses), perceived impact (<5% missing responses), and experience of PCS items (<5% missing responses), frequencies are expressed as a percentage of the number of responses to each item.

80% of respondents to the overall attitude to PCS item \( (n = 1082) \) agreed that overall, participation in PCS is a good idea, with 7% \( (n = 95) \) disagreeing, and 13% \( (n = 177) \) neither agreeing nor disagreeing.

Participants’ responses to statements relating to the perceived impact of CPD on various aspects of their practice (eg, “CPD helps to improve my patient care”) are summarized in Figure 1 below.

Participants’ responses to statements relating to their experiences of engagement with PCS are summarized in Figure 2 below.

Table 3 below summarizes the means and SDs for all survey items, for the whole sample, and broken down by gender and current primary role.

**Group Comparisons**

A Kruskal–Wallis H test showed significant differences in overall attitudes to PCS according to a current primary role \( (H(2) = 30, P < .00, \eta^2 = 0.02) \). Specifically, pairwise comparisons showed that consultants and those not used in direct frontline patient care had significantly more positive overall attitudes to participation in PCS than NCHDs \( (P < .00) \).

Group comparisons on the items relating to perceived impact of CPD were significant on only one area of practice; a Kruskal–Wallis H test showed a significant difference across primary role in reporting that CPD improves communication with patients \( (H(2) = 8.47, P < .05, \eta^2 = 0.005) \). Specifically, pairwise comparisons showed that consultants were significantly less likely than NCHDs to report that CPD improves communication \( (P < .05) \) No significant differences were found between groups on overall (summed) perceptions of the impact of CPD.

Kruskal–Wallis H tests showed significant group differences on various items relating to experience of PCS: understanding PCS requirements \( (H(2) = 41.5, P < .00, \eta^2 = 0.03) \), time to participate in CPD \( (H(2) = 97, P < .00, \eta^2 = 0.07) \), time to record CPD credits \( (H(2) = 17.64, P < .00, \eta^2 = 0.01) \), access to online CPD \( (H(2) = 7.78, P < .00, \eta^2 = 0.004) \), obtaining evidence of CPD \( (H(2) = 15.49, P < .00, \eta^2 = 0.01) \), and using the ePortfolio system for recording CPD credits \( (H(2) = 16.44, P < .00, \eta^2 = 0.01) \).

Specifically, pairwise comparisons found that NCHDS had a significantly less positive experience than either consultants or those not employed in direct frontline patient care regarding, understanding PCS requirements \( (P < .00) \), time to participate in CPD events or training \( (P < .00) \), and obtaining evidence of participation \( (P < .00) \). By contrast, consultants reported a significantly less positive experience than NCHDS with accessing online CPD \( (P < .00) \), and a significantly less positive experience with ePortfolio than those not employed in direct frontline patient care \( (P < .00) \). Both NCHDs and consultants had significantly less “time to record CPD activities” than doctors not employed in direct frontline patient care \( (P < .00) \).

When responses to the above items were summed to produce an “overall experience of PCS” score, a one-way analysis of variance showed a significant main effect of current role in overall experience scores \( (F(2) = 10.5, P < .00, \eta^2 = 0.016) \). Pairwise comparisons showed that NCHDs reported significantly more negative experiences overall across the items than both consultants and those not engaged in direct frontline patient care \( (P < .00) \).

Regarding the effect of gender, independent-samples Mann–Whitney U testing showed that, across the experience of PCS items, female participants indicated that they had significantly less time to participate \( (P < .01) \), time to record CPD activities \( (P < .01) \), and more difficulty obtaining evidence of participation \( (P < .01) \) than male participants. Female participants also had a significantly more negative overall experience with PCS than male participants \( (P < .01) \). No significant gender differences were found for any items

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**Table 2.** Frequency of N/A Responses for Survey Items

| Experience of PCS                                                                 | Number of N/A Responses | % of Sample \( (n = 1408) \) |
|-----------------------------------------------------------------------------------|-------------------------|-------------------------------|
| I understand the requirements of my Professional Competence Scheme                | 1                       | <1%                           |
| I find it easy to use the ePortfolio system for recording my CPD activities       | 12                      | <1%                           |
| I have sufficient time to participate in CPD events or training                   | 2                       | <1%                           |
| I find it easy to obtain evidence of my attendance/participation in CPD activities| 1                       | <1%                           |
| I have sufficient time to record my participation in CPD activities               | 6                       | <1%                           |
| I can easily access and participate in online CPD activities                       | 16                      | 1%                            |
| My learning activities are easily captured by the CPD categories                  | 5                       | <1%                           |

| Perceptions of impact of PCS on practice                                          |                         |                               |
|-----------------------------------------------------------------------------------|-------------------------|-------------------------------|
| CPD helps to improve my patient safety                                             | 26                      | 2%                            |
| CPD helps to improve my patient care                                              | 49                      | 3%                            |
| CPD helps to improve my teaching                                                  | 32                      | 2%                            |
| CPD helps to improve my clinical skills                                            | 53                      | 4%                            |
| CPD helps to improve my collaboration and teamwork                                 | 16                      | 1%                            |
| CPD helps to improve my communication with colleagues                              | 13                      | 1%                            |
| CPD helps to improve my communication with patients                                | 85                      | 6%                            |
| CPD helps to improve my personal and professional wellbeing                        | 11                      | <1%                           |
| CPD helps to improve my research activities                                        | 64                      | 5%                            |

CPD indicates continuing professional development; NA, Not-Applicable; PCS, Professional Competence Scheme.
relating to perceptions of the impact of CPD activities on practice or on overall attitude toward PCS.

**DISCUSSION**

**Principal Findings**

**Overall Attitudes to PCS and Perceived Impact on Practice**

The results indicate that doctors in Ireland value PCS and believe that CPD activities positively impact their practice overall. When asked to rate their agreement to the statement “overall, I think participation in a PCS is a good idea,” 80% of respondents agreed. Only 7% of participants explicitly disagreed with the statement (Figure 1). This is a positive reflection of the PCS program and suggests that a majority of doctors view their participation in PCS as an overall positive and valuable activity. This is further supported by the findings related to doctors’ beliefs about the benefits of CPD, with a majority of participants reporting that CPD positively impacts their practice across a wide range of areas (Figure 2).

This perceived positive impact was particularly prominent in the areas of patient care and patient safety, with over 80% of respondents in agreement that CPD helps to improve these areas (Figure 2). It is encouraging that such a large majority of doctors recognize the role CPD has on clinical practice and reflects the strong emphasis on these areas in PCS. Relatively less impact was reported for other areas of practice; for example, just over half (56%) of the respondents agreed that CPD helps to improve research activities. This likely reflects the commitment of doctors to patient safety and clinical skills, and the overall demand for and high levels of participation in CPD activities in these areas; it may also reflect the fact that most doctors work in clinical practice, and thus, research activities may be less relevant to them. Doctors may therefore have less experience with, or time for, CPD activities in more niche areas of practice. Nonetheless, this perceived lesser impact of CPD on research represents a target for improvement for CPD providers in future, by ensuring that doctors who require research-related CPD activities are provided with, and fully informed about, CPD activities in areas such as research.

Most previous studies conducted in Europe relating to attitudes and perceptions of the impact of CPD were conducted before the introduction of a formal system and were generally indicative of negative attitudes toward formal CPD. One such study found that a large majority of doctors agreed with the need for lifelong continuing medical education in general to keep up to date, but that formal credit-based systems were perceived negatively. Research from the United States performed after the introduction of the MOC program has found similar attitudes after the implementation of a formal CPD system, with doctors generally supporting the aims of the program but in practice felt the system involved jumping through bureaucratic hoops, with
By contrast, the results of our study are more encouraging, with most participants expressing positive attitudes toward PCS and the impact of CPD on their practice. Similarly, although research into doctors’ perceptions of the impact of CPD is limited, some existing studies showed that most doctors do not believe that formalized CPD as part of MOC systems help to improve patient care. This is in contrast to our findings, which suggested that doctors in Ireland perceive CPD to be beneficial across a wide spectrum of practice areas, from patient safety to collaboration and teamwork.

Experiences of Engagement With PCS
Most respondents reported positive experiences with PCS across all areas of engagement measured (Figure 2). However, a subset of participants may be experiencing difficulties engaging with certain areas of the PCS, with over 20% of respondents indicating that they feel their learning activities are not easily captured by the CPD categories, that they have difficulty obtaining evidence of participation, and that time (both to participate and to record participation) in CPD is an issue. At least one in five participants indicated that they had experienced issues with engagement across all items (except understanding PCS requirements and using the ePortfolio system), although this differed according to the role, with NCHDs reporting higher rates of difficulty.

The perceived lack of time to both participate in and record CPD activities is expected, in the context of the previous literature which has found time to be a major barrier to participation in CPD. Although a majority of participants agreed that PCS is a good idea, felt that CPD helps to improve their practice across a range of areas, and reported positive experiences engaging with PCS, 20% reported difficulties in engagement across all items presented, from having time to participate in CPD activities, to using the online system. This highlights the need to ensure that doctors’ positive attitudes and beliefs about CPD is mirrored in their experiences engaging with it in reality.

Comparisons Across Current Primary Role and Gender
When survey responses were compared across a current primary role, NCHDs emerged as a particularly vulnerable group. Overall attitudes to PCS were significantly less positive in NCHDs than in either consultants or doctors who are not employed in direct frontline patient care. NCHDs also reported significantly less positive experiences of engaging with PCS than either consultants or those not employed in direct frontline patient care in the areas of understanding PCS requirements, time to participate in CPD, and obtaining evidence of
participation. They were also significantly less likely to agree that they had sufficient time to record CPD activities than those in the group who are not providing frontline patient care. Finally, when scores on each of the experience items were summed to produce an “overall experience of PCS” score, NCHDs were found to have significantly more negative experiences of engagement overall than the other two groups.

These findings are concerning and reflect the vulnerability of this group of doctors in the context of the Irish health system. A recent report indicates that NCHDs are the most prevalent group of doctors working in the health system at present. As the largest group of doctors operating on the frontlines of patient care, it is vital that NCHDs stay up to date with CPD, and yet, they may be particularly exposed to the systemic factors which may negatively impact on their engagement with it.

There is a lack of research examining NCHDs engagement with PCS directly, just as there is a lack of research into the CPD participation of similarly qualified groups of doctors internationally, with much of the literature either broad or focused on particular specialities. However, some related research may shed some light on the findings of our study relating to NCHDs. For example, the 2019 Medical Council Workforce Intelligence Report explored doctors’ reasons from withdrawing from the medical register, often to practice outside of Ireland. Doctors who withdrew were largely on the general register, with most of these being NCHDs. Reasons given largely related to the current context of the Irish health system, and included overwork, being underpaid, long working hours, understaffing, burnout, and lack of employer support. These same issues act as major barriers to engagement with CPD, so it may be the case that the systemic issues at play in the health system in general for NCHDs are also impacting on their ability to participate in PCS, which could account for the significantly higher reports of negative experiences with PCS in this group. These experienced and perceived difficulties may in turn be contributing to the less positive overall attitudes to PCS found among NCHDs in our study. It must be noted, however, the size of the effect in the cases above were small to moderate (\(\eta^2 = 0.01-0.06\)), and further research is needed to investigate other factors which may be impacting on NCHD’s experience of PCS.

Although NCHDs emerged as the most vulnerable group in terms of potential barriers, consultants were more likely to report difficulties in two areas. First, consultants were found to have significantly less positive experiences than NCHDs in terms of easily accessing online CPD. It is possible that a proportion of this group are less familiar with, or less skilled in online learning, although it may also be the case that there is a lack of online courses specific to consultants’ specialities, leading to difficulty accessing online CPD that is relevant to their practice. For NCHDs, who are at an earlier stage in their careers, broader focused online courses may be appropriate.

### TABLE 3.
Table of Means for Survey Responses

| Item                                                                 | Sample                  | Mean | SD   | Gender Breakdown | Mean | SD   | Mean | SD   | Mean | SD   | Mean | SD   |
|----------------------------------------------------------------------|-------------------------|------|------|------------------|------|------|------|------|------|------|------|------|
| Overall attitude to PCS                                             | Overall, I think participation in a Professional Competence Scheme is a good idea | 4.09 | 0.937 | Male             | 4.07 | 0.995 | 4.10 | 0.876 | 4.20 | 0.872 | 3.84 | 1.05 |
| CPD helps to improve my...                                           | ...Patient safety       | 3.90 | 0.885 | Female           | 3.88 | 0.965 | 3.91 | 0.799 | 3.87 | 0.907 | 3.86 | 0.932 |
| ...Patient care                                                      | 3.90 | 0.919 | 3.89 | 0.988 | NCHD             | 3.91 | 0.845 | 3.92 | 0.908 | 3.86 | 0.958 |
| ...Teaching                                                         | 3.70 | 1     | 3.70 | 1.05 | Others           | 3.74 | 0.947 | 3.74 | 0.982 | 3.71 | 0.992 |
| ...Clinical skills                                                   | 3.69 | 0.979 | 3.72 | 1.01 | Consultant      | 3.66 | 0.941 | 3.66 | 0.997 | 3.68 | 1.03  |
| ...Collaboration and teamwork                                       | 3.65 | 0.903 | 3.63 | 0.942 | Male             | 3.66 | 0.862 | 3.60 | 0.912 | 3.65 | 0.911 |
| ...Communication with colleagues                                    | 3.55 | 1.01  | 3.55 | 1.07 | Female           | 3.55 | 0.938 | 3.49 | 1.02  | 3.62 | 1.02  |
| ...Communication with patients                                       | 3.53 | 1.01  | 3.55 | 1.06 | NCHD             | 3.51 | 0.946 | 3.46 | 1.00  | 3.62 | 1.04  |
| ...Personal and professional wellbeing                               | 3.50 | 1.01  | 3.52 | 1.10 | Others           | 3.48 | 1.07  | 3.45 | 1.10  | 3.56 | 1.10  |
| ...Research                                                          | 3.41 | 1.01  | 3.44 | 1.13 | Consultant      | 3.38 | 1.05  | 3.43 | 1.07  | 3.43 | 1.07  |
| Experiences of engagement with PCS                                  | I understand the requirements of my Professional Competence Scheme | 4.23 | 0.857 | Male             | 4.23 | 0.857 | 4.23 | 0.858 | 4.33 | 0.839 | 4.01 | 0.924 |
|                                                                      | I find it easy to use the ePortfolio system for recording my CPD activities | 3.71 | 1.07  | Female           | 3.70 | 1.10  | 3.73 | 1.04  | 3.60 | 1.13  | 3.74 | 1.04  |
|                                                                      | I have sufficient time to participate in CPD events or training         | 3.60 | 1.12  | NCHD             | 3.67 | 1.13  | 3.53 | 1.10  | 3.74 | 1.10  | 3.34 | 1.10  |
|                                                                      | I find it easy to obtain evidence of my attendance/participation in CPD activities | 3.50 | 1.01  | Others           | 3.57 | 1.10  | 3.43 | 1.07  | 3.58 | 1.07  | 3.32 | 1.10  |
|                                                                      | I have sufficient time to record my participation in CPD activities     | 3.46 | 1.10  | Consultant      | 3.54 | 1.12  | 3.39 | 1.08  | 3.36 | 1.18  | 3.43 | 1.06  |
|                                                                      | I can easily access and participate in online CPD activities            | 3.55 | 0.982 | Male             | 3.54 | 1.01  | 3.56 | 0.953 | 3.48 | 0.984 | 3.61 | 0.985 |
|                                                                      | My learning activities are easily captured by the CPD categories         | 3.41 | 1.10  | Female           | 3.44 | 1.14  | 3.39 | 1.06  | 3.44 | 1.13  | 3.49 | 0.986 |

CPD indicates continuing professional development; NCHD, nonconsultant hospital doctor; PCS, Professional Competence Scheme.
Second, consultants reported significantly less positive experiences than doctors who are not involved in providing direct frontline patient care when it came to ease of using the ePortfolio system for recording CPD credits. It could be that consultants as a group have more difficulty navigating the online system itself than those within this other group, but it is also possible that they see the process of having to record credits in general as being burdensome. Consultants may have greater time constraints than those not employed in frontline patient care and may prioritize clinical duties over clerical ones. However, more in-depth research is needed to more fully understand what factors may underlie this finding.

When perceptions of the impact of CPD across various areas of practice were compared across current primary role, group differences were only found for one area, with consultants significantly less likely than NCHDs to report that CPD improves their communication with patients. This may reflect a number of factors; consultants may prioritize their time to engage in CPD relating directly to patient safety, patient care, and clinical skills; and perceive engagement in learning activities relating to general skills such as communication as being of lesser importance and value. This is supported by recent research which has shown that physicians in the United States prioritize CPD activities relating to medical knowledge and skills, at the expense of activities relating to professionalism.

Similarly, it may be the case that consultants, who are further in their careers than NCHDs, feel that they are already sufficiently proficient in communication skills, and have nothing left to learn in this area. More research is needed to explore this topic in particular, because perceived deficits in doctor–patient communication are a major reason for patient complaints.

In addition, the size of the effects of the current primary role on ease of accessing online CPD and perceived benefit of CPD on communication skills were very small (η² = 0.004 and η² = 0.005, respectively), suggesting that the differences between consultants and NCHDs in these two cases may not be meaningful.

No significant differences were found across gender regarding perceptions of the impact of CPD on practice or overall attitudes toward PCS. However, female participants had significantly more negative experiences with PCS; specifically, lack of time to participate in and record CPD activities, and difficulties obtaining evidence of participation, suggesting that female participants may be more impacted by time constraints than males. There are a number of factors which may contribute to added time constraints for female doctors; female professionals have been shown shoulder a significantly larger share of domestic responsibilities than males and are more likely to make job trade-offs for family responsibilities than men, and it may be the case that these responsibilities take up the personal time that could otherwise be used for CPD. In addition, research has shown female doctors to experience burnout at significantly higher rates than male doctors which may impact on the ability to engage with CPD requirements. However, more research is necessary to examine any potential explanations underlying gender differences in ability to engage with CPD.

**Conclusion and Implications**

Across the board, attitudes toward, and experiences of PCS were positive among survey participants, and the perceived impact of CPD activities within the PCS scheme on various areas of practice was high. Most participants reported a positive experience of PCS across a variety of areas of engagement, which is encouraging. However, a fifth of respondents indicated difficulties with a number of areas of engagement, from having sufficient time to participate to obtaining evidence of participation. This is in line with research from other countries with similar but distinct systems of CPD, which have also discussed barriers to participation in formal CPD; finding that in the US system, time is also a significant barrier, suggesting that such difficulties may be common to different health systems and CPD programs.

The findings of barriers to engagement with a formal system of CPD similar to those found abroad13,20,21 highlight the generalizability of the findings outside of the Irish context and warrant consideration when developing formal CPD systems elsewhere. These areas of difficulty represent targets for improvement in future. Although some of these areas of difficulty, such as the lack of time to participate in CPD are a characteristic of chronic issues within the health system which may require systemic change to address, others, such as difficulties obtaining evidence and lack of time to record CPD credits may be more straightforward. Measures to improve ease of access to relevant CPD activities and streamline the process of recording credits should be the focus of CPD providers. Indeed, RCPI are addressing these issues through multiple avenues; for example, by the development of an improved electronic platform and ePortfolio which was launched in 2019, allowing for on-the-spot recording of CPD and audit activities. In addition, easy access to relevant learning activities is constantly being developed; for example, interactive live events are also transmitted online to hospitals and individual doctors. Provision of online activities in general is being improved; in July 2019, RCPI launched a new virtual learning environment called Brightspace, a cloud-based management system which enables the development, design, and delivery of online learning activities, including point of care educational support to participants.

Although the results were positive overall, they also suggest that experience of PCS differs according to the role. The study highlighted NCHDs who are not in training programs as a subgroup of doctors who have more negative attitudes about PCS participation, and who report more negative experiences with PCS participation than either consultants or others. NCHDs may therefore require additional support when navigating PCS, and in general. As a result of continuously monitoring and identifying the CPD needs of vulnerable groups, such as those of NCHDs, the Health Services Executive has increased the amount of financial support and time allocated to this group.35 Resolving systemic barriers to meeting CPD requirements requires the collaboration of individual doctors, medical training bodies, employers, and the regulator, which is the medical council in Ireland.

Future research should narrow the focus and target NCHDs, as well as those who are having difficulties meeting their PCS requirements, to identify their unique needs and develop intervention strategies to maximize participation. A qualitative study based on a thematic analysis of the open-ended item is being prepared, and a follow-up qualitative study using in-depth telephone interviews is currently underway in RCPI.

**Limitations of the Study**

This study was conducted as an initial exploration of doctors’ attitudes, beliefs, and experience of engagement with a formal system of CPD in the form of PCS. Although the survey measure used captured a wide breadth of data, there are some limitations. The use of forced-choice questions may necessarily fail to capture a
more in-depth understanding of the many factors which may be influencing doctors’ attitudes and experiences of PCS. Some open-ended questions relating to experience of PCS were included and will be reported in detail separately. In addition, future qualitative research is planned with the aim of further expanding on the findings of this study to obtain a rich understanding of doctors’ attitudes and experiences. Furthermore, as the Irish health system is a relatively small one, with a limited scope of specialists, it was not possible to examine the unique perspective of those working in niche specialties in detail, because of the brief survey-based nature of the study. Future research should examine this topic in further detail using more suitable methodologies which facilitate an in-depth examination of the particular needs and experiences of niche groups of doctors. Finally, the study does not include primary care physicians/GPs as RCPI is not involved in the training of GPs. Thus, the results of this study may not be generalizable to this group of doctors and future research by other training bodies should aim to include GPs/primary care physicians to obtain a fuller image of the experience of PCS by all doctors in Ireland.

Lessons for Practice

- The introduction of a formal system of CPD can be associated with positive experiences, perceptions, and attitudes overall
- Nonetheless, such formal systems must work to identify and address relevant practice-based and systemic barriers
- Formal national CPD systems must also identify and address the specific needs of vulnerable physician populations to enhance their engagement in CPD activities

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