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ORIGINAL ARTICLE

What are the current 'top five' perceived educational needs of Irish general practitioners?

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Abstract

Introduction Doctors' continuing medical educational and professional development (CME and CPD) needs are known to be strongly influenced by national and local contextual characteristics. A crucial step in the development of effective education and training programmes is the assessment of learner needs.

Methods A national needs assessment was conducted among general practitioners (GPs) in the Republic of Ireland who attended continuing medical education small group learning meetings (CME-SGL) in late 2017. Doctors completed a self-administered anonymous three-page questionnaire which gathered demographic data and asked them to choose their 'top five' perceived educational needs from separate lists of topics for CME and CPD.

Results There were 1669 responses (98% of monthly attendance). The topics most commonly identified as a priority for further CME were prescribing (updates/therapeutics), elderly medicine, management of common chronic conditions, dermatology, and patient safety/medical error. The most commonly selected CPD topics were applying evidence-based guidelines to practice, appraising performance/conducting practice audits, coping with change, and managing risk and legal medicine. There was no difference between urban and rural practice settings regarding the most commonly chosen topics in each category; however, more rural GPs selected pre-hospital/emergency care as one of their 'top five'.

Conclusion Our findings identified priority areas where CME and CPD for GPs in Ireland should focus. The topics selected may reflect the changing nature of general practice, which increasingly requires delivery of care to an ageing population with more multi-morbidity and chronic disease management, while trying to apply evidence-based medicine and consider patient safety issues. CME/CPD programmes need to adapt accordingly.

Keywords Continuing medical education · Continuing professional development · Education needs · General practice

Introduction

Continuing medical education (CME) is part of the process of lifelong learning that all doctors undertake from medical school until retirement in order to keep their clinical knowledge and practice up to date (1). Continuing professional development (CPD) is a broader process by which health professionals update themselves to meet the needs of their patients, the health service, and their profession (2). The terms CME and CPD are often used interchangeably; together, they

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encompass the continuous acquisition of new knowledge, skills, and attitudes to enable competent practice, including the organization and delivery of care (2).

A comprehensive CME/CPD programme for GPs is essential for developing and maintaining high professional standards in general practice (3). Moreover, involvement in CME/CPD has become a requirement for maintenance of licensure and revalidation of certification for many regulatory bodies (4,5). In Ireland, the Medical Practitioners Act of 2007 placed a statutory obligation on all registered medical doctors to participate in a professional competence scheme based on engagement with CME/CPD and annual audit. Traditionally, CME/CPD credits have been earned from medical conferences, professional meetings, small group learning (SGL), and, more recently, online e-learning resources (6).

The goal of CME/CPD is to improve patient care by maintaining or improving the knowledge, skills, and attitudes of healthcare professionals. A crucial step in the development of effective education and training programmes is the assessment of learner needs, and the aim of any educational needs assessments is to determine the gap between what is known and what should be known (7). Published evidence indicates that programmes that are based on well-conducted needs assessments are more likely to lead to changes in learner behaviour (8). In addition, CME/CPD is more likely to lead to change in practice when the education is linked to clinical practice, when personal incentive drives the educational effort, and when there is some reinforcement of the learning (9). Learning needs assessment is thus a crucial part of the educational process, and in 1998, both individual and organizational needs assessments became part of government policy in relation to the CME/CPD and personal development plans of all healthcare professionals in the UK (10).

In Ireland, a national network of 37 CME tutors coordinates locally based 'small group learning' (SGL) sessions for GPs. Each tutor directs 2–5 small groups, usually with 8–12 members each. Group leaders (who are themselves group members) facilitate the CME-SGL sessions, which involve GP meeting in the evenings after work for approximately 2 h to discuss cases, reflect on evidence presented in the meeting, and consider what changes they will make to their own practice. There are commonly 7–8 meetings per group per year and around 1300 CME-SGL meetings annually across the country. Average monthly attendance is 1700 GPs, with Irish GPs attending an average of four meetings per annum. First established in 1983, the tutor network is funded by Ireland's Health Service Executive (HSE) and is overseen by the Irish College of General Practitioners (ICGP), which also administers the professional competence scheme for GPs.

The aim of this study was to investigate the current perceived educational needs of GPs attending ICGP CME-SGL, in order to ensure the curriculum can be adapted to the CME/CPD requirements of this group of doctors in active clinical practice. Moreover, the study aimed to determine whether the type of practice (rural or urban) influenced reported educational needs, given that previous research suggests that the CME needs of rural doctors are different to those of their urban colleagues (11–14).

Methods

A national needs assessment was conducted to identify the educational needs of Irish GPs. This study consisted of a self-administered anonymous questionnaire devised to be completed by all Irish doctors attending CME-SGL in late 2017. Following research ethics approval from the ICGP, a pilot study among 24 GPs (July 2017) during which the list of CME/CPD topics provided was adapted, and a discussion regarding implementation with all CME-SGL tutors (September 2017), all 37 tutors administered the questionnaire to all attendees at their next scheduled CME meetings (during November and December 2017).

The three-page questionnaire, which was based on two previous national surveys (14,15) and a literature review on the topic (16), gathered demographic data, e.g. practice setting (i.e. rural, urban, or mixed), number of years in practice, and how long they were members of CME-SGL. Respondents were asked about their educational and professional development needs; specifically, they were asked to select their 'top five' CME needs from a list of 39 clinical topics and their 'top five' CPD needs from a list of 37 professional competence topics. The list was based on that used in a previous Irish study (14) and adapted in the pilot (e.g. possibility to include 'other' topics). GPs were not asked to rank their top five choices.

Previous Irish studies defined 'urban practices' as those located within a centre of population with 5000 or more residents (15,17). In such centres (towns with populations of 5000–20,000 or cities with populations > 20,000), an 'urban' practitioner would be expected to have most of his or her patients confined to a relatively small geographical area and have ready access to colleagues and local or regional hospital facilities. In contrast, rural practitioners (located within centres with < 5000 residents) have a scattered patient population, have few colleagues located nearby, and are located at a distance from most referral facilities. In this study, GPs were asked to self-select whether they were working in an urban or a rural area. As the HSE designates certain GP practice areas as rural for the purposes of a dedicated payment (rural practice allowance) (18), it is considered that these Irish GPs were able to accurately identify whether or not they worked in a rural practice.

Obtaining accurate data regarding the number of doctors working in general practice at the time of the study is complex as there is no official register of practising GPs in Ireland. For

a previous study, the authors calculated the number of active GPs by combining data from the Irish Medical Directory and the ICGP 'Find a GP' list. (15) This calculation ($n = 2932$), although a few years out-of-date, was considered of more relevance for the current study, than, for example, membership of the ICGP, or numbers on the GP specialist register.

Statistical analyses of the collected data were performed using SPSS version 24. To adjust for multiple statistical comparisons, an alpha value of 0.01 was chosen for the significance level. The chief aim of the study was to examine for differences of CME/CPD needs between urban and rurally based GPs in Ireland. Other demographic variables, such as age, gender, practice type, and years in practice, were of interest to us, in so far as they differed between urban and rural practices. Respondent's location (urban, mixed, or rural practice) was the predictor variable of interest, compared against multiple categories of CME/CPD topics. The strength of association between these categorical variables was assessed using Cramer's V statistic, derived from the Pearson chi-square test, with scores of 0.07, 0.21, and 0.35 representing small, medium, and large effect sizes, respectively. Comparisons across multiple categories for continuous variables were performed using one-way ANOVA. Levene's test was used to examine for equality of variances, and the Welch and Brown-Forsythe tests were used to test for equality of means when the homogeneity of variance test was violated.

Results

A total of 1669 GPs completed the questionnaire; this represents approximately 57% of GPs currently in active clinical practice nationally, based on recent figures (15). Monthly attendance figures collected by the ICGP indicate that an average of 1700 GPs attended CME-SGL each month in November and December 2017; thus, the response rate from those who attended was 98%. Most respondents worked in an 'urban' or 'mixed' practice setting. Rural GPs (20% of total) were more likely to be male, were older, had spent longer in practice, and had fewer private patients than their urban colleagues (Table 1), findings that are consistent with a recent national survey (15).

The preference of these GPs for further education in 37 listed clinical topics and 39 listed professional competence topics is shown in Tables 2 and 3. All participating GPs completed the questionnaire correctly; the tables present the proportion who identified each of the respective topics as one of their 'top five' CME and CPD needs. So, for example, 579 GPs (34.3% of the sample of 1669 GPs) identified 'elderly medicine' as one of their 'top five' CME needs (Table 2), and 233 GPs (13.8%) identified 'computer skills/software (excel etc.)' as one of their 'top five' CPD needs (Table 3). The five most popular topics for further education and professional development as chosen by these Irish GPs are indicated in *italic* in the respective tables. A small number of GPs specified 'other' topics as part of their 'top five' CME/CPD choices; however, the topics suggested did not fall into any common themes.

While there was no difference between urban, mixed, and rural GPs for the most commonly selected topics in either category, rural GPs were significantly more likely to select 'pre-hospital care, emergency care, and CPR' as one of their 'top five' topics for CME ($P = 0.0001$) and less likely to report a need for further education in 'substance abuse including alcohol abuse'. The effect size for these findings was small. There was a trend for urban GPs to cite 'orthopaedics' and 'occupational medicine' in their 'top five' choices, but this was not significant and the effect size was small. (Table 4).

Discussion

Key findings

Our findings highlight the topics and areas which GPs believe are a priority for future CME delivery. Of 39 CME topics included in the questionnaire, five were chosen by more than a quarter of GPs, including 'prescribing (updates/therapeutics)', which was selected by 2 out of every 5 physicians, and 'elderly medicine', 'management of common chronic conditions', 'dermatology', and 'patient safety/medical error'. Perceived need for further education was spread more evenly across the 37 CPD topics listed in the questionnaire; nevertheless, at least 1 in 5 doctors included 'applying evidence-based guidelines to practice', 'audit', 'coping with change', 'managing risk', 'legal medicine', or 'GP self-care' in their list of five most important topics. Most of these topics reflect the changing nature of Irish general practice, in which physicians increasingly deliver care to an ageing population with more chronic disease, while trying to apply evidence-based medicine and prioritize patient safety. GPs in Ireland are required to have the skills to provide a broad range of services, and in doing this need, regular CME/CPD provided to support them professionally (15).

How this relates to other literature

The finding that prescribing and implementing guidelines into practice were, respectively, the most commonly chosen CME and CPD topics may reflect current trends in general practice. The volume of medicines being prescribed has risen in recent years (19), and there has been a proliferation of clinical guidelines (20). Despite this, concerns have been raised that patients who are eligible for evidence-based treatments are not receiving them (21). There is a rising burden of illness, and some have called for the use of more medicines to alleviate pain and

Table 1 Demographics of GPs participating in this national needs assessment

	Urban	Mixed	Rural	*P*
Number of GPs	684	653	332	
Gender male (%)	43.4%	50%	55%	< 0.01*
Mean [SD] patient practice size (GMS)	905 [580.5]	1005 [492.3]	967 [471.9]	0.29
Mean [SD] patient practice size (private)	1312 [1007.7]	1286 [865.9]	1007 [755.1]	< 0.001
Mean [SD] age of GPs (years)	50 [11.2]	51 [11.1]	54 [10.7]	< 0.001
Mean [SD] number of years worked in GP	20 [11.6]	21 [11.9]	24 [11.3]	< 0.001

SD standard deviation

*Cramer's V 0.07

disability, prolong life, and prevent avoidable disease (21). In contrast, there is increasing concern about overdiagnosis and overtreatment, particularly in elderly patients (22). On this background, Irish GPs are striving to provide an ever broadening range of evidence-based services (15). It has been reported that CME/CPD activities will only have a positive impact on GP professional development and clinical performance if they are meaningful and relevant (23). The results of this study suggest that the application of evidence-based guidelines to patient care along with the optimization of associated prescribing is considered to be meaningful and relevant topics for further education by these Irish GPs.

That elderly medicine and management of chronic diseases were among the most popular CME topics chosen by these GPs is consistent with the findings of another recent study (14). Nationally stated policy, supported by hospital specialists and allied professions, favours a shift of these aspects of healthcare out of tertiary and secondary settings, and into the primary care environment (24). In keeping with this, GP workload continues to rise due to an ageing population, more chronic disease management, and the challenges arising from multi-morbidity (25). The latter is often not addressed by clinical guidelines, which tend to focus on single conditions (20). For general practice to deliver on extended chronic disease management, a well-trained workforce operating from high-quality premises and backed up by significant investment is required (15). International literature on successful chronic disease care emphasizes key infrastructural elements in general practice, including disease registers, information systems, greater interaction between secondary care and primary care, use of guidelines, and education (26). Implementation of these elements has been associated with improvement in quality of care (27). The importance to these Irish GPs of further education in elderly medicine and management of chronic diseases is in line with other studies in Europe which report that CME/CPD should reflect the increased need for the delivery of healthcare in the primary care setting (14,28,29).

Although research evidence demonstrates that the CME/CPD needs of rural doctors are different to those of their urban colleagues (11–14), this study found no differences between rural and urban GPs with respect to the five most popular topics chosen for further CME or CPD. Some differences were seen across practice setting, however. Almost twice as many rural Irish GPs (27%) selected pre-hospital/emergency care as an important topic for further education compared with their urban colleagues (15%). This is consistent with a previous report from Canada (11) and is in line with the key role that rural physicians play in the initial management of medical emergencies and seriously injured patients in remote settings (30). Urban GPs were more likely to cite a need for further CME in orthopaedics and occupational medicine, while rural GPs were less likely to report a need for further education in substance abuse; however, the relevance of these differences is limited by the fact that relatively few GPs included these topics in their 'top five'.

Previous studies have demonstrated that GPs have a strong preference for CME/CPD of high relevance to clinical practice, with topics and activities focused on practical skills rather than 'fact-based' knowledge (31). These include the management of common medical conditions amenable to treatment in general practice (31), and education which can improve patient outcomes (32). In keeping with this, dermatology, interpretation of (test) results, pre-hospital care, emergency care/CPR, and women's health were among the CME topics most commonly chosen by these Irish GPs. Practical skills pertaining to legal medicine (including writing medico-legal reports and certification of death) was among the most popular CPD topics chosen. A requirement of the ICGP professional competence scheme (PCS) is an annual participation in audit (33); accordingly, it is perhaps not surprising that almost a quarter of these GPs chose 'appraising performance/conducting practice audits' as one of their 'top five' topics for further CPD. Other popular choices for further CPD, which include 'coping with and actively managing change in general practice', 'recognizing and managing risk in clinical practice', 'GP self-care', 'stress management', and 'dealing with uncertainty', very likely directly reflect the increased workload and associated stress levels of Irish GPs.

Table 2 Continuing medical education needs of Irish GPs ($N = 1669$)

CME topic	GPs who chose topic as one of 'top five' needs, *N* (%)
Prescribing (updates/therapeutics)	*671 (39.8%)*
Elderly medicine	*579 (34.3%)*
Management of common chronic conditions (e.g. asthma, diabetes)	*509 (30.2%)*
Dermatology	*425 (25.2%)*
Patient safety and medical error	*424 (25.1%)*
Interpreting lab, ECG, radiology results	415 (24.6%)
Pre-hospital care, emergency care/CPR	323 (19.2%)
Women's health	298 (17.7%)
Ophthalmology	250 (14.8%)
Pain management	239 (14.2)
Psychiatry (compulsory admission, psychosis, etc.)	228 (13.5%)
Rheumatology/injection of joints	24(13.3%)
Falls and syncopal episodes	224 (13.3%)
Mental health	223(13.2%)
Palliative care	221 (13.1%)
Childhood immunology and allergy	198 (11.7%)
Infectious diseases/STIs	188 (11.2%)
Substance abuse, including alcohol abuse	188 (11.2)
Sports medicine	168 (10%)
Paediatrics	165 (9.8%)
Occupational medicine	160 (9.5%)
Assessing patients' social/psychological needs	153 (9.1%)
Nephrology	152 (9%)
Preventative medicine (cancer, CVD)	150 (8.9%)
Neurology	148(8.8%)
Obesity and weight loss/nutrition	132 (7.8%)
Childhood health and growth	131 (7.8%)
Men's health	129(7.7%)
Procedural/minor surgery skills	118 (7.0%)
Travel vaccination	116 (6.9%)
ENT (including oral cancers)	112 (6.6%)
Exercise prescription/exercise physiology	110 (6.5%)
Orthopaedics	96 (5.7%)
Vaccinations in GP	89 (5.3%)
Doing procedures (e.g. ECG, cryotherapy, IV cannulation)	83 (4.9%)
Prescribing health lifestyle and weight management	75 (4.4%)
Respiratory medicine	71(4.2%)
Gastroenterology	49 (2.9%)
Other (please specify)	46 (2.7%)

Methodological considerations

The exact proportion of Irish GPs who do not take part in CME-SGL is not known; however, based on data collected by the ICGP and another recent national Irish study, such doctors represent a very small minority of the total GP workforce, recently estimated as $n = 2932$ (15). Those GPs who do attend CME-SGL take part in an average of four meetings per annum; the questionnaire was administered by local educators directly to GPs attending small group meetings during a single month, and if this time period had been extended, the response rate could have been improved. Nevertheless, the responders ($n = 1669$) represent approximately 57% of all Irish GPs located across the country. This, along with demographic results

Table 3 Continuing professional development needs of Irish GPs ($N = 1669$)

CPD topic	GPs who chose topic as one of 'top five' needs, *N* (%)
Applying evidence-based guidelines to your practice	*524 (31.1%)*
Appraising performance/conducting practice audits	*383 (22.7%)*
Coping with and actively managing change in GP	*380 (22.5%)*
Recognizing and managing risk in clinical practice	*377 (22.4%)*
Writing medico-legal reports/death certification/legal medicine	*354 (21.0%)*
GP self-care	341 (20.2%)
Stress management (self and others)	330 (19.6%)
Dealing with uncertainty	324 (19.2)
Practice management/business skills/generating income	316 (18.7%)
How to deal with paper work in practice	307 (18.2%)
Dealing with a medical council complaint	271 (16.1%)
Time management	264 (15.7%)
Financial management	258 (15.3%)
Use of new media/digital technology	243 (14.4%)
Introducing new ideas/services/clinics into your practice	239 (14.2%)
Computer skills/software (excel, etc.)	233 (13.8%)
Managing practice personnel	232 (13.8%)
Cognitive behavioural therapy	231 (13.7%)
Developing a practice business plan	227 (13.5%)
Behaviour change in patients	217 (12.7%)
Healthcare ethics/legal medicine	205 (12.2%)
Negotiation and conflict resolution skills	171 (10.1%)
Appropriate referral (hospital, physiotherapy, radiology)	169 (10%)
Professional liability	165 (9.8%)
Searching the medical literature/online healthcare	158 (9.4%)
Good record keeping/data input	133 (7.9%)
Regulations on confidentiality	125 (7.4%)
Legislation influencing health policies	120 (7.1%)
Healthcare economics/resource management	114 (6.8%)
Patient advocacy, social duty as a doctor	106 (6.3%)
Teamwork/negotiation/conflict resolution	106 (6.3%)
Practising health promotion and preventative medicine (screening)	103 (6.1%)
Leadership skills	91 (5.4%)
Giving clear healthcare advice/information/instructions to patients	90 (5.3%)
Communication/interpersonal skills	82(4.9%)
Treating patients with English fluency/hearing problems	81 (4.8%)
Other (please specify)	12 (0.7%)

Table 4 Differences in CME/CPD topics chosen according to GP practice setting ($N = 1669$)

CME topic	GPs who chose topic as one of 'top five' CME needs, *N* (%)				*P* value	Cramer's V
	Total ($N = 1669$)	Urban ($N = 684$)	Mixed ($N = 653$)	Rural ($N = 332$)		
Pre-hospital care, emergency care/CPR	321 (19%)	104 (15%)	126 (19%)	91 (27%)	0.0001	0.113
Orthopaedics	95 (5.7%)	50 (7%)	34 (5%)	11 (3%)	0.028	0.065
Occupational medicine	159 (9.5%)	78 (11%)	59 (9%)	22 (7%)	0.045	0.061
Substance abuse including alcohol abuse	186 (11%)	71 (11%)	90 (14%)	25 (7.5%)	0.009	0.075

which are consistent with other studies (15), suggests that the results of this study are highly representative of the current CME/CPD needs of GPs in Ireland. On the other hand, the questionnaire does not provide any information on the CPD needs of the minority of Irish GPs who do not attend CME-SGL meetings and whose educational needs may be different. In addition, while the large sample size allowed for statistically significant differences between urban and rural GPs for some of the chosen educational topics, the effect sizes were small. The percentages reported for the various educational topics in Tables 2 and 3 reflect the country as a whole rather than individual CME/CPD needs; however, as part of the study, the authors reported the responses of each group to individual tutors, thus allowing them to plan the CME-SGL curriculum for their own groups.

Implications for future research education and practice

Medical knowledge and clinical practice are continuously and rapidly evolving. New diagnostic tests, clinical therapies, and treatment recommendations frequently arise, and studies regularly reassess relative efficacies of current therapeutic options. Designing effective and efficiently delivered CME/CPD programmes is essential to enable GPs to integrate new knowledge and skills into daily clinical practice. Educational needs assessments are the best way to understand the challenges facing healthcare providers and patients so that education can be most relevant (10). They are used to direct and shape educational initiatives and are a major component of the framework for effective continuing education.

There are many ways to assess educational needs, including both qualitative and quantitative methods; these may utilize individual or group approaches and internal (self) or external (peer) review and may focus on doctor (e.g. knowledge) or patient (e.g. safety) outcomes. These approaches vary with respect to feasibility and practicality for practising GPs. In this case, by using the existing Irish CME-SGL network, a national needs assessment was conducted quickly and simply and had a very high response rate. The study produced important findings that not only inform the design of the ICGP CME-SGL curriculum both locally and nationally, but are also relevant for medical schools, GP specialist training programmes, and others who provide post-graduate education in Ireland.

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Compliance with ethical standards

Conflict of interest Dr. Stephanie Dowling received a research grant from the ICGP called the ICGP Career Support Grant. No other funds were received by any of the authors for this study. There is no conflict of interest in this study.

Ethical approval ICGP Ethical approval was received for this study. GPs were questioned only and no procedures were performed for this study. (All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.)

Informed consent Informed consent was obtained from all individual participants included in the study.

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