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Maintenance of Professional Competence in Ireland: A National Survey of Doctors' Attitudes and Experiences

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Maintenance of Professional Competence in Ireland: A National Survey of Doctors' Attitudes and Experiences

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Abstract (300 words)

Objectives: Programmes to ensure doctors' Maintenance of Professional Competence (MPC) have been established in many countries. Since 2011, doctors in Ireland have been legally required to participate in MPC. A significant minority has been slow to engage with MPC, mirroring the contested nature of such programmes internationally. This study aimed to describe doctors' attitudes and experiences of MPC in Ireland with a view to enhancing engagement.

Participants: All registered medical practitioners in Ireland required to undertake MPC in 2018 were surveyed using a thirty-three item cross-sectional mixed-methods survey designed to elicit attitudes, experiences and suggestions for improvement.

Results: There were 5,368 responses (response rate 41.5%). Attitudes to MPC were generally positive, but the time, effort and expense involved outweighed the benefit for half of doctors. Thirty-eight percent agreed that MPC is a tick-box exercise. Heavy workload, travel, requirement to record CPD activities, and demands placed on personal time were difficulties cited. Additional support, as well as higher quality, more varied educational activities were amongst suggested improvements. Thirteen percent lacked confidence that they could meet requirements, citing employment status as the primary issue. MPC was particularly challenging for those working less than full-time, in locum or non-clinical roles, and taking maternity or sick leave. Seventy-seven percent stated a definite intention to comply with MPC requirements. Being male, or having a basic medical qualification from outside Ireland was associated with less firm intention to comply.

Conclusions: Doctors need to be convinced of the benefits of MPC to them and their patients. A combination of clear communication and improved relevance to practice would help. Addition of a facilitated element e.g. appraisal and varied ways to meet requirements would support participation. MPC should be adequately resourced, including provision of high quality free educational activities. Systems should be established to continually evaluate doctors' perspectives.

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Strengths and Limitations of this Study

Strengths include;

- Strong response rate for a national online survey of all doctors (n=5368, 41.5%)
- Representativeness of the respondents
- Diverse stakeholders involved in the research, including patient representation
- Survey design was undertaken in accordance with best practice, informed by literature and theory. Post hoc analysis of the survey confirmed its validity.

Limitations include;

- Although the response rate to the survey was excellent there were still large numbers of non-responders. We cannot be sure that the findings presented here represent the views of non-responders.

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Introduction

Historically, once a doctor entered independent practice, career-long maintenance of professional knowledge and skills was assumed [1]. In recent decades, evolving doctor-patient relationships, a drive for accountability, and high-profile cases of malpractice [2] have led medical regulators to put continuous evaluative processes in place to ensure that doctors are up to date and fit to practise [3]. A variety of terms are used to describe these programmes; revalidation, recertification, relicensing, maintenance of certification and maintenance of licensure [4, 5]. In this paper, we will use the term Maintenance of Professional Competence (MPC).

MPC programme requirements vary from country to country but, in general, involve educational and assessment elements such as; evidence of good professional standing; participation in knowledge self-assessments; examinations; quality improvement projects or audits; appraisal; peer and patient feedback; and continuing professional development (CPD)[3, 5–7]. The intended outcomes of these activities are manifold and include; improving patient safety and the quality of patient care; encouraging doctors to commit to lifelong learning; and enhancing the continuing professional development of doctors [5, 8]. While there is evidence that some MPC activities, such as interactive CME/CPD, appraisal, review of patient complaints and multisource feedback, have an impact on doctors' knowledge, skills, attitudes and behaviours, it is less clear that MPC significantly impacts patient outcomes [3]. This has led to much debate about whether and how MPC programmes should be implemented.

In keeping with international trends, in Ireland doctors have been legally mandated to participate in MPC since 2011. The Medical Council, the regulator for doctors in Ireland, has established a range of Professional Competence Schemes (PCS) to administer the process through thirteen national bodies responsible for postgraduate medical training. Doctors are required to enrol in and submit evidence of educational activities annually through a PCS. Each doctor is expected to obtain a minimum of 50 credits per year (1 credit= 1 hour) through CPD activity. A minimum requirement of 20 credits each is

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set for external and internal CPD, with the remainder coming from personal learning and research/teaching categories. In addition, each doctor is required to complete one quality improvement (clinical/non-clinical) audit per year [9].

Following its introduction in Ireland, a significant minority of doctors were slow to engage with MPC. By 2016, 16.3% had still not enrolled in a PCS despite a legal requirement to do so. Active measures by the Medical Council have addressed enrolment reducing this figure to 1.7% in 2018 [10]. Nonetheless, engagement remains a problem, with one postgraduate training body reporting 30% of doctors not meeting the requirements laid down by the Medical Council [11]. Failure amongst doctors to engage fully with a legal requirement linked to competence has the potential to undermine the trust the public have in their doctors. It also creates risk for employers, indemnifiers and a significant challenge for the regulator.

This paper reports a national survey of doctors in Ireland, funded by the Health Research Board Ireland. The aim of this study was to describe doctors' attitudes, experiences and suggestions for improvement in relation to current systems for Maintenance of Professional Competence (MPC) in Ireland. The research was underpinned by an integrated approach to knowledge translation. The research team included representation from a range of stakeholders; the regulator, postgraduate training bodies, the health service and patients.

Methods:

Study design and setting

As the regulatory body for the medical profession in Ireland, the Medical Council has amongst its roles maintenance of the Register of Medical Practitioners and must satisfy itself as to medical practitioners ongoing maintenance of professional competence . The Register of Medical Practitioners is comprised of four divisions shown in Table 1 below. Those registered in the general, supervised and specialist division are required to participate in MPC.

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Division	Registrants
General Division	Medical practitioners who have not completed specialist training and do not occupy a postgraduate training post. Nineteen percent of doctors in this division are GPs.
Specialist Division	Medical practitioners who have completed specialist training recognised by the Council and can practise independently as a specialist. Thirty nine percent of doctors in this division are GPs.
Supervised Division	Medical practitioners who have been offered a post that has been approved by the national Health Service Executive (HSE), which has specific supervisory arrangements.
Trainee Specialist Division	Trainee specialist registration is specifically for medical practitioners who practise in individually numbered, identifiable postgraduate training posts.

Table 1. Divisions of the Register of Medical Practitioners

This study was a cross-sectional mixed-methods survey of all registered medical practitioners in Ireland mandated to participate in MPC in 2018 (n = 12,920).

Survey instrument

We designed a questionnaire to elicit doctors' experience, attitudes and suggestions for improvement of MPC. We drew on several sources to develop the questionnaire. We reviewed the literature, held a focus group with doctors undertaking MPC, and sought input from our knowledge-user research partners to identify key areas of interest. The Theory of Planned Behaviour (TPB)[12], acted as a sensitising concept in the design of the survey. TPB posits that an individual's attitude towards a behaviour, the subjective norms relating to that behaviour and the individual's perceived control of the behaviour, shape behavioural intentions and the behaviour itself [12]. In the case of MPC, this focussed attention not only on doctors' attitudes to MPC, and the barriers to participation they encountered, but also on their perceptions of the attitudes of others such as patients and colleagues, and the consequences of failure to participate. The questionnaire was piloted with a further group of doctors (n = 30) representative of our target population, following which it was further revised and refined to improve clarity and length. The final version of the questionnaire consisted of thirty statements relating to MPC and three free text questions. A Likert-type format

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was used for the statements with five response codes ranging from 1 = strongly agree to 5 = strongly disagree. A copy of the questionnaire can be found in Appendix A.

Patient Involvement

The research team included Mrs. Margaret Murphy, a patient safety advocate and then External Lead Advisor, WHO Patients for Patient Safety, a network of 200-plus patient safety champions from 51 countries. Mrs. Murphy was a member of the project steering committee. She approved the design and conduct of the study and contributed to design of the questionnaire. Patient perspectives were reflected in items addressing the impact of MPC on patient outcomes, doctors' perceptions of the importance of MPC to patients and the possibility of patient feedback contributing to doctors' MPC.

Data collection

All doctors registered with the Medical Council are required to complete an online Annual Retention of Registration process. In June/July 2018, information about the survey and a link to complete it were included in the process as a pop-up targeting those in the relevant divisions of the register. The information and link were also sent in email reminders to doctors in the weeks following the annual retention process. Survey responses were linked to demographic data held by the Medical Council using registration numbers. Once the data was collated the registration numbers were removed and replaced with participant numbers to anonymise the data.

Data analysis

Descriptive statistics (frequencies and percentages) were generated to describe both the demographic characteristics of respondents and responses to each survey item. Proportional odds regression models were used to formally test the associations between responses to attitudinal items and intention to comply with the requirements of MPC. To validate the survey instrument we estimated a full Confirmatory Factor Analysis (CFA) model with four latent factors based on the

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various Likert response survey questions organised under headings drawn from the Theory of Planned Behaviour; attitudes; facilitators; barriers; and social norms. To accommodate the ordered categorical nature of the indicators, we used a robust Weighted Least Squares estimator. We calculated factor scores for each participant based on the model result and explored associations between these factor scores and demographic characteristics with confidence of capability to comply with requirements of MPC and intention to comply. Thematic analysis [13] was conducted on the responses to the open-ended survey questions.

Ethics

This study received ethical approval through the University College Cork Social Research Ethics Committee. Informed consent was obtained from all participants.

Results

There were 5,368 responses to the survey from a population of 12, 920, giving a response rate of 41.5%. Male doctors accounted for 61% of responses. Median age was 47 years (IQR 38-56). 58% were in the specialist division of the register and 39% were in the general division and 0.7% in the supervised division. 56% had gained their Basic Medical Qualification (BMQ) in Ireland and a further 14% within the EU. Respondents were representative of the survey population, with slight over representation of males (61.2% vs 57.7%) and doctors registered in the general division (39.3% vs 36.5%). There was good representation across specialties and countries of Basic Medical Qualification. Graduates of Irish medical schools were slightly under-represented in the General Division (29.4% vs 27.4%) and overrepresented in the Specialist division (73.8% vs 79.4%).

The majority of respondents held positive views on the general benefits of MPC, agreeing that it reassures patients and the public (65%), encourages doctors to continually learn and keep up to date (77%) and raises the standard of practice of all doctors (62%). At a more personal level, being

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encouraged to participate in educational activities was the most agreed benefit (70%), followed closely by being encouraged to reflect more on one's professional development (67%).

When the benefits were set against the time, effort and expense involved in the process only 51% agreed that MPC was a worthwhile exercise and 38% agreed with the statement that MPC was a tick box exercise. MPC was considered to have resulted in changes in practice by a small majority (53%). MPC wasn't seen as being particularly important to patients (57%) or to colleagues (56%) and only 58% felt that non-compliance risked removal from the register.

Figures 1 and 2 here

Barriers to participation in MPC

The main barriers to participation were lack of protected time and expense (see Fig. 3). Expense of locum cover to allow participation in CPD was also a significant barrier. Audit skills were lacking in a significant minority (27.2%). Doctors </= 34 years of age or over 55 years were more likely to report these difficulties (35% and 32% respectively p<0.001).

A small group of doctors (12.8%) did not understand what they were required to do to maintain professional competence. A small majority (55%) agreed that current arrangements and information were sufficient. A significant minority expressed ambivalence or dissatisfaction with their ability to access high quality CPD. 49% disagreed or were ambivalent towards the statement that they match their choice of CPD to their learning needs.

Respondents provided over 1,300 comments relating to barriers to meaningful participation in MPC. Six themes, with associated subthemes, were identified, and are outlined in Table 2 below, ranked by frequency. Illustrative quotes are shown along with the respondent's area of practice, area of basic medical qualification (BMQ – Ireland, Other EU, non EU), and division of the register.

Figure 3 here

Barriers	Barrier Subthemes

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1.1 Time involved in meeting the requirements of MPC	Time for participation in MPC activities ○ Workload ○ Travel to attend CPD activities ○ Recording MPC activities MPC time vs personal time
1.2 Expense of participation in MPC	Cumulative expense of MPC Impact of expense on the selection of CPD activities Insufficient CPD funding Expense related to specific groups of doctors
1.3 Availability and quality of CPD activities	Lack of relevance of CPD courses to scope of practice ○ CPD too general, not specialised ○ Repetitive content ○ Lack of recognition of all professional activities ○ Lack of value for money Difficulty of accessing CPD course ○ Geographical location ○ Short notice of upcoming CPD courses ○ Poor availability of online CPD courses ○ Limited number of places available on CPD courses
1.4 Employment status	Working abroad ○ Employed outside of Ireland ○ Recently returned to Ireland after working abroad Not employed in Ireland (looking for jobs) Non-fulltime employment Maternity or sick leave Non-clinical role
1.5 Record-keeping	Tedious and time-consuming process Cumbersome online platform
1.6 Audit	Lack of skills, training and support Frequency of audit Lack of relevance to scope of practice Time-consuming process

Table 2. Barriers to meaningful engagement with MPC - themes and subthemes

Consistent with the Likert-scaled responses, the time and expense of participation in MPC were the most frequently cited barriers.

Time involved in meeting the requirements of MPC

> ***'After a 10-12 hour very difficult day it can really interfere with personal time leading to stress and reduces time for family and friends. Due to increased pressures in primary care, paper work on call practice management etc. CPD while obviously very worthwhile has to be squeezed in and this leads to some resentment and less time for personal reading of which only 5 points are allocated.' (GP, BMQ Ireland, specialist division)***

Expense of participation in MPC

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'I am forced to usually only choose free events and local to me due to time and financial constraints, so I do not get to actually choose the things that would be most beneficial educationally. This is because locum costs or costs from family life/babysitters etc. is too much and if there are also course fees it is just not financially viable.' (GP, BMQ Ireland, specialist division)

Some felt that the allowance or subsidy that they receive for CPD activity was inadequate. Specific groups of doctors such as those on maternity leave, non-partner General Practitioners (GPs), non-consultant hospital doctors (NCHDs) and locums found it particularly challenging to cover the cost related to meeting the requirements of MPC.

'I feel that non-partner/non-[principal] GPs are at a significant disadvantage, the cost of CPD in addition to paying out of pocket for Medical council etc. None of these costs are tax deductible for us. Everything is straight out of our pocket. We do not get a payment for study leave as [GP principals/ partners] do. We also face discrimination .. as we have to continue to complete CPD with no maternity leave payments.' (GP, BMQ Ireland, specialist division)

Availability and quality of CPD materials

The availability of CPD to match doctors' scope of practice, and the quality of the CPD, were the main barriers under this theme. Repetitive content, the geographical concentration of events in Dublin, and poor availability of online courses were cited.

'The standard of educational activities provided by the relevant training bodies can be quite weak and repetitive in Ireland.' (Psychiatry, BMQ Ireland, specialist division)

Employment Status

Doctors not in fulltime clinical employment in Ireland found it challenging to meet the requirements of MPC.

'Working as a locum or as a sessional doctor for short periods is a barrier to carrying out audit. Maternity leave - possible to get external points but internal points and audit difficult to impossible. I was informed that I could make it up in later years. I do not think it is fair to ask

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people to do an extra audit to make up for time off on maternity leave. I moved city yearly since starting the CPD scheme and worked as locum, sessional work and other jobs. In that time, I also had a maternity leave… I found it difficult in those years to make up points'. (GP, BMQ Ireland, general division)

Record Keeping

Recording of CPD activities on cumbersome online platforms was identified as a further barrier.

'The process of recording activity through the online portal is a very tedious and time consuming. ….sitting down to spend a considerable amount of time engaging with the process is demoralising'. (Obstetrics and gynaecology, BMQ Ireland, specialist division)

Audit

Participants cited the audit as a barrier to participation in MPC. Issues relating to the audit included the lack of training, skills, and information provided on how to conduct an audit. Many participants regarded audit as a pointless exercise with no clear benefit. Others believed audit was irrelevant to their practice and "only suitable for academics". Some participants thought that the yearly audit was excessive and onerous, and would prefer an audit spread over a number of years.

Suggestions for Improvement of MPC processes

The majority of respondents (58%) were not in favour of using patient feedback as part of MPC. Using feedback from colleagues also received a tepid reception with 51% agreeing that they would welcome it. 61% would like to see a quality improvement initiative option. Recommendations for improvement mirrored the barriers identified. Suggestions for improvement captured by the open-ended survey question are thematically outlined in Table 3 below, and ranked by frequency.

Suggestion	*Subthemes*
2.1 Remove or change audit	Remove audit Reduce audit frequency

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	Audit alternative
2.2 Provide additional support	Make allowances for individual circumstances Provide more information
2.3 Increase the quality and range of CPD activities	Provide more online courses Increase the quantity, quality and variety of local CPD courses
2.4 Reduce the expense of PCS and CPD courses	Subsidise CPD activities Provide locum cover Make expenses tax deductible
2.5 Changes to current scheme	Change points system Introduce new methods Place more emphasis on learning Make participation voluntary
2.6 More protected time	
2.7 Tailor PCS to specialty or scope of practice	Specialty specific requirements and courses Recognition of non-clinical roles (i.e., credit for teaching)

Table 3. Suggestions for Improvement of MPC processes ranked by frequency

The most frequent suggested improvement was to remove or change the audit component.

'The requirement to complete a full audit cycle within one year every single year encourages you to pick a subject dealing with small numbers so that it can all be completed in time. In my opinion, you should be allowed to carry out larger audits over a period of two or three years which would provide more useful and comprehensive information and therefore be much more beneficial. You could easily show evidence of working on the audit every year and this should be enough to satisfy the Medical Council in my view.' (GP, BMQ Ireland, specialist division)

Participants felt that additional support should be provided by making allowances for individual circumstances and providing more information.

Allow excess points to be carried over from one year to the next. I feel the Colleges should be more aware and sensitive to individuals' circumstances e.g. illness, bereavement etc. (Radiology, BMQ Ireland, specialist division)

Provision of more online CPD, as well as improving the quality and quantity of offerings would make MPC a more useful experience for participants.

The body should be responsible for providing mandatory free online and in person educational activities, seminars and meetings covering all medical updates and specialties. (Psychiatry, BMQ non-EU, general division)

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There were a variety of suggestions as to how expense of MPC could be reduced, including greater subsidies, provision of locum cover, and making expenses tax deductible. Further suggestions included making changes to how CPD points are awarded, introduction of new methods to evaluate doctors and placing more emphasis on learning.

The basic premise of most educational activities being offered in these schemes as being of educational value is flawed. There is little value in sitting in a conference from an educational point of view. Learning needs to be more active and self-directed. Most CPD schemes to not facilitate this in any meaningful way. (Medical specialty, BMQ non-EU, general division)

In Ireland doctors' entitlement to study leave varies according to role. Those not currently entitled to such leave identified this as an area to be addressed.

We should have protected time included in our contract. It's ridiculous having to go at night in the winter and give up weekend family time to go to meetings. (GP, BMQ Ireland, general division)

Finally, respondents suggested greater tailoring of the requirements of MPC to doctors' scope of practice.

PCS at the moment is general and you can fill education or courses you like. I think it would be more productive if stratified into subspecialties, that might help people stay more focused and sharp into one speciality and relevant education. (Medical specialty, BMQ non-EU, general division)

Confidence in ability to meet requirements of MPC

87% of respondents agreed that they were confident that they could meet the requirements of MPC. A proportional odds regression model showed that confidence in meeting requirements was related to more positive attitudes to MPC, but not related to respondent characteristics e.g. gender or division of the register.

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In total, over 700 doctors said they were not confident that they could meet requirements. Of these, 315 provided comments explaining why they lacked confidence. Five main reasons and associated subthemes were identified, which are outlined in Table 4 below and ranked by frequency.

Reason	Subthemes
3.1 Employment status	Not in full-time practice Non-clinical role Maternity leave Working abroad Sick leave Career break
3.2 Lack of time	Cover for clinical work Busy clinical workload Personal/family time
3.3 Audit	Time Lack of skills, training and support Employment status
3.4 Expense	
3.5 Quantity and quality of CPD courses	Lack of relevant CPD courses Not enough online courses

Table 4. Reasons for lacking confidence in ability to meet requirements of MPC

Intention to comply with MPC

77% stated that they intended to comply with requirements. 23% were either unsure or disagreed.

Associations between Likert-scaled survey items and intention to comply were estimated using proportional odds regression models. This confirmed the relationship between intention to comply and positive attitudes to MPC, weaker endorsement of barriers to MPC, stronger endorsement of facilitators and stronger endorsement of social norms e.g. importance to patients. This was similar to the findings in relation to confidence of ability to comply.

Relationship between gender, region of Basic Medical Qualification, division of the register, role, service model, nationality and intent was significant only for gender and region of BMQ. Male doctors and those who obtained their BMQ outside Ireland were more uncertain of their intention to comply with the requirements of MPC.

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Discussion

This study was the first national survey of doctors' attitudes towards Maintenance of Professional Competence since its introduction in Ireland in 2011. While attitudes to MPC were generally positive, up to one-third of doctors were unconvinced of its impact. The time, effort and expense involved in MPC outweighed any perceived benefit for half of doctors. A significant minority (38%) felt that MPC is a tick-box exercise and over 40% did not view MPC as important to patients or colleagues, or consequential in terms of sanction from the Medical Council. Seventy-seven percent of respondents stated a definite intention to comply with the requirements of MPC, which is surprisingly low in the context of the legal requirement to do so. Those who were less certain of intention to comply held more negative views of the process, in terms of general attitudes, perception of impact on own practice and endorsement of the presence of multiple barriers to participation. These findings point to the importance of convincing doctors that MPC is worthwhile. Being male, or having a Basic Medical Qualification from outside Ireland also predicted greater likelihood of not expressing firm intention to comply.

Engaging doctors in MPC in a meaningful way requires clear communication of the purpose of the process and explicit linkage of the mandated activities to that purpose. Confusion about the objectives of MPC and lack of evidence of its effectiveness have hampered doctors' commitment to the process internationally [6, 14]. The findings of this research suggest that a similar situation prevails in Ireland. While promotion of MPC and the PCS schemes in Ireland refer to doctor competence, quality of care and patient safety [9], the requirements currently in place are aimed primarily at assuring doctors' attendance at approved CPD sessions. The relationship between CPD and competence, quality of care and patient safety is supported by limited evidence [3, 15], which may explain the significant minority of doctors who were unconvinced of its impact in enhancing standards of medical practice and reassuring the public.

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Furthermore, 49% of respondents to our survey disagreed or were ambivalent towards the statement that they match their choice of CPD to their learning needs. Qualitative comments suggest that convenient timing and location, availability and expense contribute to the choice of CPD undertaken. Thus, MPC can become a tick-box exercise, focussed on scoring the required points before the annual deadline rather than meeting learning needs. While the compulsory annual audit might have been expected to be a useful activity embedded in doctors' day-to-day practice, our findings suggest that, on the contrary, it is seen by many a time consuming and ineffective exercise. Comments suggested that the single year timeframe forces a decision to do small scale audits that have little perceived impact. This goes some way to explaining why only 53% of respondents agreed that their own practice had been impacted by participation in MPC. Removal of the audit, or change to the requirements relating to it was the most frequent suggestion to improve MPC. The literature suggests that any model of MPC that seeks to impact practice should feature a facilitated approach through activities such as regular performance review, appraisal, mentoring, etc. [3], something that is lacking in the current Irish system. Facilitation can involve exploration of learning needs, targeted choice of CPD, and linking audit to practice. It has also been shown to provide emotional support and to enhance engagement with the process [16]

Inadequate resourcing of MPC was evident in the barriers to engagement identified by respondents. Time associated with participating in the MPC process was the greatest barrier. Heavy workload, requirement to travel and to record CPD activities, and the demands this placed on personal time were amongst the difficulties arising. Respondents repeatedly referred to the need for funded protected time for MPC, including provision of locum cover. The current strain in the Irish health system, with short-staffing and heavy service demands, can make it challenging for those entitled to study leave to take it. Time constraints are cited internationally as a barrier to MPC [17, 18].

Expense of participation in MPC was the second most endorsed barrier. Internationally the question of who should bear the expense of MPC is a hotly contested topic. Our respondents' comments echo

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the concerns of doctors in other jurisdictions that MPC is a money-making exercise for those who regulate and run programmes [15]. Doctors pay annual registration fees to the Medical Council, membership or fellowship fees to postgraduate training bodies and,professional indemnity fees. The addition of a fee for enrolment in a Professional Competence Scheme, fees for CPD activities and the associated locum cover, travel and accommodation, add up to significant expense. Respondents indicated that this is an issue particularly for doctors for whom professional expenses are not tax deductible and who may not have a CPD allowance; those working less than full-time, as non-consultant hospital doctors or salaried GPs and those taking maternity/parental or sick leave. While some doctors do have an allowance for CPD activities this varies across different groups and is not universal.

If MPC programmes are to be successful, CPD to match learning needs must be readily available and of high quality. Respondents commented that available CPD was of limited range and tended to be repetitive. Geographical location, excessive expense, inadequate advertising/notice and limited places all contributed to inaccessibility of current CPD offerings. A strong preference for greater availability of online learning was expressed, as well as greater variety and better quality courses outside Dublin. Recent work in the Irish context has documented the broad CPD needs of both GPs and hospital consultants and provides useful information to support more effective provision of CPD [19–22].

The vast majority of doctors understood what the requirements for MPC were, but many did not find PCS sufficiently flexible or information provided adequate. Foremost amongst suggestions for improvement was the provision of more information and support for doctors. Greater flexibility, reflecting recognition of the individual circumstances of doctors, e.g. sick leave, was also felt to be important. This included allowing greater flexibility between categories of points and requiring fewer points from part-time workers. The arbitrary nature of the threshold of 50 CPD points would suggest that these are reasonable suggestions.

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There is a subgroup of doctors for whom the combination of expense and the specific requirements of MPC present a real challenge. Thirteen percent of respondents expressed lack of confidence in their ability to meet MPC requirements. The main reason cited for lack of confidence was employment status. Meeting the requirements of MPC is particularly challenging for those working less than full-time, in locum posts, in non-clinical roles, taking maternity or sick leave and those living outside Ireland for part of the year. Again, this is something that is common across other jurisdictions [23]. Greater flexibility in requirements would support participation amongst this group.

Strengths and limitations

Amongst the strengths of this study are the diverse stakeholders involved in the research, the strong response rate to the questionnaire and the representativeness of the respondents. Survey design was undertaken in accordance with best practice, informed by literature and theory. Post hoc analysis of the survey confirmed its validity. Although the response rate to the survey was excellent there were still large numbers of non-responders. We cannot be sure that the findings presented here represent the views of non-responders.

Conclusions

We have presented the views of over 5,000 doctors participating in MPC in Ireland. The problems with implementation of MPC identified in this study are not unique to the Irish context. As MPC continues to evolve internationally other jurisdictions grapple with the same challenges. Enhancing doctors' engagement in MPC in Ireland will require a comprehensive strategy focussed on better communication, adequate resourcing and ongoing evaluation of the process.

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Declarations

Ethics approval and consent to participate

Ethical approval was granted by the Social Research Ethics Committee, University College Cork. All participants gave fully informed consent.

Consent for publication

Not applicable

Availability of data and materials

The datasets generated and/or analysed during the current study are not publicly available due to participants not having consented to public availability, but are available from the corresponding author on reasonable request.

Competing interests

EG, AW, DD and DB declare that they have no competing interests. JC and JOF are employed by the Medical Council, the regulator of professional competence in Ireland.

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Authors' contributions

DB designed the study. JOF, AW, JC and DB designed the questionnaire. JOF and JC administered the questionnaire and collected the data. DD performed the statistical analysis. All authors contributed to the analysis and interpretation of the data. EG, AW and DB drafted the paper which was edited and approved by all authors. All authors have agreed both to be personally accountable for their

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own contributions and to ensure that questions related to the accuracy or integrity of any part of the work, even ones in which the author was not personally involved, are appropriately investigated, resolved, and the resolution documented in the literature.

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We are grateful to Ireland's doctors who shared their perspectives with us on this important topic in great numbers.

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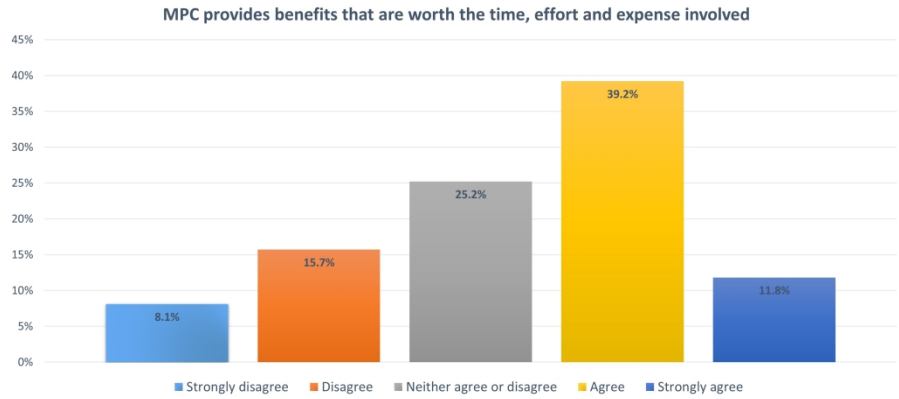

Figure 1. Distribution of responses to the statement that MPC provides benefits that are worth the time, effort and expense involved.

338x190mm (300 x 300 DPI)

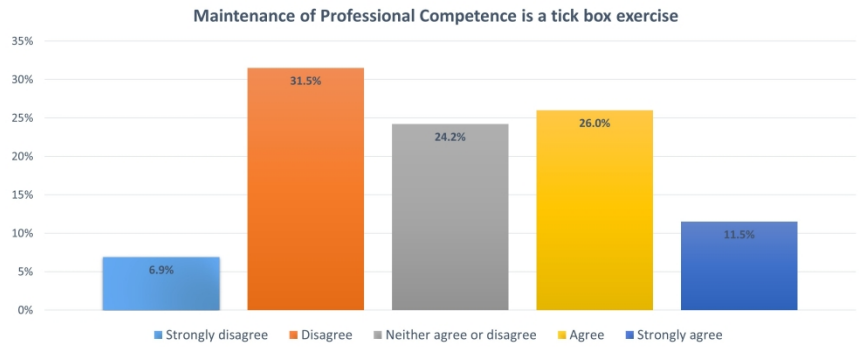

Figure 2. Distribution of responses to the statement that MPC is a tick box exercise

338x190mm (300 x 300 DPI)

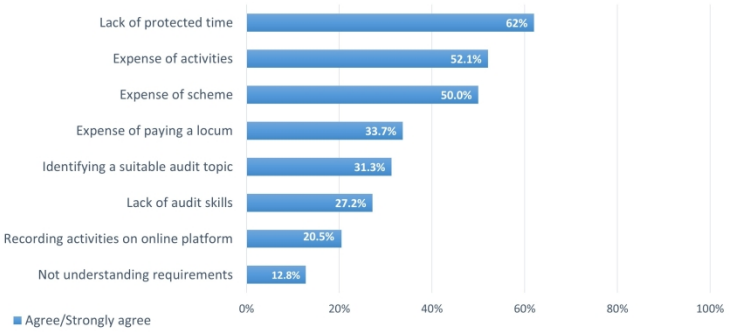

Figure 3. Barriers to meaningful engagement with MPC

338x190mm (300 x 300 DPI)

APPENDIX A – SURVEY QUESTIONNAIRE

Since 2011 doctors have been required to demonstrate Maintenance of Professional Competence by enrolling in Professional Competence Schemes and recording their educational activities. This survey is about your attitudes to and experience of participation in Maintenance of Professional Competence. Your responses should relate to your experience in IRELAND ONLY.

Maintenance of Professional Competence	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1. Reassures patients and the public that doctors are fit to practice	1	2	3	4	5
2. Encourages doctors to continually learn and keep up to date	1	2	3	4	5
3. Raises the standard of practice of all doctors	1	2	3	4	5
Participation in Maintenance of Professional Competence	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
4. Encourages me to reflect more on my professional development	1	2	3	4	5
5. Encourages me to participate in more educational activities	1	2	3	4	5
6. Has resulted in changes in my practice	1	2	3	4	5
7. Provides benefits that are worth the time, effort and expense involved	1	2	3	4	5

Please indicate your agreement with these statements about BARRIERS to **your own** engagement with Maintenance of Professional Competence in Ireland	Not applicable	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1. I do not understand what I am required to do for Maintenance of Professional Competence		1	2	3	4	5
2. Lack of protected time makes it difficult to undertake activities to earn points	0	1	2	3	4	5
3. The expense of the annual Professional Competence Scheme fee is a barrier		1	2	3	4	5
4. The expense of Continuing Professional Development(CPD) activities is a barrier		1	2	3	4	5
5. The expense of paying a locum to allow me to attend CPD activities is a barrier	0	1	2	3	4	5
6. The requirement to record my learning activities through an online platform has been a barrier		1	2	3	4	5
7. Lack of audit skills has been a barrier		1	2	3	4	5
8. Difficulty identifying a suitable audit topic has been a barrier		1	2	3	4	5
9. Please provide details of any other barriers or reasons for not participating in Maintenance of Professional Competence here:						

Please indicate your agreement with the following statements about factors which SUPPORT **your own** engagement with Maintenance of Professional Competence in Ireland	Not applicable	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1. The CPD activities I need to address gaps in my knowledge and practice are currently available		1	2	3	4	5
2. I can access high quality CPD activities		1	2	3	4	5
3. My Professional Competence Scheme provides enough flexible ways to meet requirements		1	2	3	4	5
4. My Professional Competence Scheme provides useful information to help me to meet requirements		1	2	3	4	5
Please indicate your agreement with the following statements	Not applicable	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
5. Maintenance of Professional Competence is a tick box exercise		1	2	3	4	5
6. I match my CPD activities to gaps in my knowledge and practice		1	2	3	4	5
7. I would welcome the opportunity to use patient feedback to demonstrate my professional competence	0	1	2	3	4	5
8. I would welcome the opportunity to use feedback from colleagues to demonstrate my professional competence		1	2	3	4	5
9. I would welcome the opportunity to submit a quality improvement initiative rather than an audit	0	1	2	3	4	5
10. I am concerned that information I provide to my Professional Competence Scheme about my knowledge and practice could be used against me if my competence was in question		1	2	3	4	5
11. It is important to my patients that I meet the requirements for Professional Competence	0	1	2	3	4	5

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12. It is important to my colleagues that I meet the requirements for Professional Competence		1	2	3	4	5
13. Doctors who do not participate in Maintenance of Competence risk being removed from the register		1	2	3	4	5
14. I am confident that I can fulfil the requirements for Maintenance of Competence		1	2	3	4	5
15. If you are not confident of meeting the requirements for Maintenance of Competence, please indicate why not here						
16. Please rate your intention to comply with requirements for Maintenance of Competence in the future	Intend not to comply	Probably won't comply	Unsure about my intentions	Probably will comply	Intend to comply	
17. If you could change two things about Maintenance of Competence/ Professional Competence Schemes to make them more relevant, efficient and effective for you, what would they be?						
Would you be willing to participate in a **confidential interview** on the topic of Professional Competence Schemes.? We are particularly interested in talking to doctors who have not enrolled or participated, or who have found doing so difficult.	YES/NO					
If so please provide an email contact						

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Maintenance of Professional Competence in Ireland: A National Survey of Doctors' Attitudes and Experiences

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Abstract (300 words)

Objectives: Programmes to ensure doctors' Maintenance of Professional Competence (MPC) have been established in many countries. Since 2011, doctors in Ireland have been legally required to participate in MPC. A significant minority has been slow to engage with MPC, mirroring the contested nature of such programmes internationally. This study aimed to describe doctors' attitudes and experiences of MPC in Ireland with a view to enhancing engagement.

Participants: All registered medical practitioners in Ireland required to undertake MPC in 2018 were surveyed using a thirty-three item cross-sectional mixed-methods survey designed to elicit attitudes, experiences and suggestions for improvement.

Results: There were 5,368 responses (response rate 42%). Attitudes to MPC were generally positive, but the time, effort and expense involved outweighed the benefit for half of doctors. Thirty-eight percent agreed that MPC is a tick-box exercise. Heavy workload, travel, requirement to record CPD activities, and demands placed on personal time were difficulties cited. Additional support, as well as higher quality, more varied educational activities were amongst suggested improvements. Thirteen percent lacked confidence that they could meet requirements, citing employment status as the primary issue. MPC was particularly challenging for those working less than full-time, in locum or non-clinical roles, and taking maternity or sick leave. Seventy-seven percent stated a definite intention to comply with MPC requirements. Being male, or having a basic medical qualification from outside Ireland was associated with less firm intention to comply.

Conclusions: Doctors need to be convinced of the benefits of MPC to them and their patients. A combination of clear communication and improved relevance to practice would help. Addition of a facilitated element e.g. appraisal and varied ways to meet requirements would support participation. MPC should be adequately resourced, including provision of high quality free educational activities. Systems should be established to continually evaluate doctors' perspectives.

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Strengths and Limitations of this Study

Strengths include;

- Strong response rate for a national online survey of all doctors (n=5368, 42%)
- Representativeness of the respondents
- Diverse stakeholders involved in the research, including patient representation
- Survey design was undertaken in accordance with best practice, informed by literature and theory. Post hoc analysis of the survey confirmed its validity.

Limitations include;

- Although the response rate to the survey was excellent there were still large numbers of non-responders. We cannot be sure that the findings presented here represent the views of non-responders.

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Introduction

Historically, once a doctor entered independent practice, career-long maintenance of professional knowledge and skills was assumed [1]. In recent decades, evolving doctor-patient relationships, a drive for accountability, and high-profile cases of malpractice [2] have led medical regulators to put continuous evaluative processes in place to ensure that doctors are up to date and fit to practise [3]. A variety of terms are used to describe these programmes; revalidation, recertification, relicensing, maintenance of certification and maintenance of licensure [4, 5]. In this paper, we will use the term Maintenance of Professional Competence (MPC).

MPC programme requirements vary from country to country but, in general, involve educational and assessment elements such as; evidence of good professional standing; participation in knowledge self-assessments; examinations; quality improvement projects or audits; appraisal; peer and patient feedback; and continuing professional development (CPD)[3, 5–7]. The intended outcomes of these activities are manifold and include; improving patient safety and the quality of patient care; encouraging doctors to commit to lifelong learning; and enhancing the continuing professional development of doctors [5, 8]. While there is evidence that some MPC activities, such as interactive CME/CPD, appraisal, review of patient complaints and multisource feedback, have an impact on doctors' knowledge, skills, attitudes and behaviours, it is less clear that MPC significantly impacts patient outcomes [3]. This has led to much debate about whether and how MPC programmes should be implemented.

In keeping with international trends, in Ireland doctors have been legally mandated to participate in MPC since 2011. The Medical Council, the regulator for doctors in Ireland, has established a range of Professional Competence Schemes (PCS) to administer the process through thirteen national bodies responsible for postgraduate medical training. Doctors are required to enrol in and submit evidence of educational activities annually through a PCS. Each doctor is expected to obtain a minimum of 50 credits per year (1 credit= 1 hour) through CPD activity. A minimum requirement of 20 credits each is

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set for external and internal CPD, with the remainder coming from personal learning and research/teaching categories. In addition, each doctor is required to complete one quality improvement (clinical/non-clinical) audit per year [9].

Following its introduction in Ireland, a significant minority of doctors were slow to engage with MPC. By 2016, 16.3% had still not enrolled in a PCS despite a legal requirement to do so. Active measures by the Medical Council have addressed enrolment reducing this figure to 1.7% in 2018 [10]. Nonetheless, engagement remains a problem, with one postgraduate training body reporting 30% of doctors not meeting the requirements laid down by the Medical Council [11]. Failure amongst doctors to engage fully with a legal requirement linked to competence has the potential to undermine the trust the public have in their doctors. It also creates risk for employers, indemnifiers and a significant challenge for the regulator.

This paper reports a national survey of doctors in Ireland, funded by the Health Research Board Ireland. The aim of this study was to describe doctors' attitudes, experiences and suggestions for improvement in relation to current systems for Maintenance of Professional Competence (MPC) in Ireland. The research was underpinned by an integrated approach to knowledge translation. The research team included representation from a range of stakeholders; the regulator, postgraduate training bodies, the health service and patients.

Methods:

Study design and setting

As the regulatory body for the medical profession in Ireland, the Medical Council has amongst its roles maintenance of the Register of Medical Practitioners and must satisfy itself as to medical practitioners ongoing maintenance of professional competence . The Register of Medical Practitioners is comprised of four divisions shown in Table 1 below. Those registered in the general, supervised and specialist division are required to participate in MPC.

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Table 1. Divisions of the Register of Medical Practitioners

Division	Registrants
General Division	Medical practitioners who have not completed specialist training and do not occupy a postgraduate training post. Nineteen percent of doctors in this division are GPs.
Specialist Division	Medical practitioners who have completed specialist training recognised by the Council and can practise independently as a specialist. Thirty nine percent of doctors in this division are GPs.
Supervised Division	Medical practitioners who have been offered a post that has been approved by the national Health Service Executive (HSE), which has specific supervisory arrangements.
Trainee Specialist Division	Trainee specialist registration is specifically for medical practitioners who practise in individually numbered, identifiable postgraduate training posts.

This study was a cross-sectional mixed-methods survey of all registered medical practitioners in Ireland mandated to participate in MPC in 2018 (n = 12,920).

Survey instrument

We designed a questionnaire to elicit doctors' experience, attitudes and suggestions for improvement of MPC. We drew on several sources to develop the questionnaire. We reviewed the literature, held a focus group with doctors undertaking MPC, and sought input from our knowledge-user research partners to identify key areas of interest. The Theory of Planned Behaviour (TPB)[12], acted as a sensitising concept in the design of the survey. TPB posits that an individual's attitude towards a behaviour, the subjective norms relating to that behaviour and the individual's perceived control of the behaviour, shape behavioural intentions and the behaviour itself [12]. In the case of MPC, this focussed attention not only on doctors' attitudes to MPC, and the barriers to participation they encountered, but also on their perceptions of the attitudes of others such as patients and colleagues, and the consequences of failure to participate. The questionnaire was piloted with a further group of doctors (n = 30) representative of our target population, following which it was further revised and refined to improve clarity and length. The final version of the questionnaire consisted of thirty statements relating to MPC and three free text questions. A Likert-type format

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was used for the statements with five response codes ranging from 1 = strongly agree to 5 = strongly disagree. A copy of the questionnaire can be found in Appendix A.

Patient Involvement

The research team included Mrs. Margaret Murphy, a patient safety advocate and then External Lead Advisor, WHO Patients for Patient Safety, a network of 200-plus patient safety champions from 51 countries. Mrs. Murphy was a member of the project steering committee. She approved the design and conduct of the study and contributed to design of the questionnaire. Patient perspectives were reflected in items addressing the impact of MPC on patient outcomes, doctors' perceptions of the importance of MPC to patients and the possibility of patient feedback contributing to doctors' MPC.

Data collection

All doctors registered with the Medical Council are required to complete an online Annual Retention of Registration process. In June/July 2018, information about the survey and a link to complete it were included in the process as a pop-up targeting those in the relevant divisions of the register. The information and link were also sent in email reminders to doctors in the weeks following the annual retention process. Survey responses were linked to demographic data held by the Medical Council using registration numbers. Once the data was collated the registration numbers were removed and replaced with participant numbers to anonymise the data.

Data analysis

Descriptive statistics (frequencies and percentages) were generated to describe both the demographic characteristics of respondents and responses to each survey item. Proportional odds regression models were used to formally test the associations between responses to attitudinal items and intention to comply with the requirements of MPC. To validate the survey instrument we estimated a full Confirmatory Factor Analysis (CFA) model with four latent factors based on the

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various Likert response survey questions organised under headings drawn from the Theory of Planned Behaviour; attitudes; facilitators; barriers; and social norms. To accommodate the ordered categorical nature of the indicators, we used a robust Weighted Least Squares estimator. We calculated factor scores for each participant based on the model result and explored associations between these factor scores and demographic characteristics with confidence of capability to comply with requirements of MPC and intention to comply. Thematic analysis [13] was conducted on the responses to the open-ended survey questions.

Ethics

This study received ethical approval through the University College Cork Social Research Ethics Committee. Informed consent was obtained from all participants.

Results

There were 5,368 responses to the survey from a population of 12, 920, giving a response rate of 41.5%. Men accounted for 61% of responses. Median age was 47 years (IQR 38-56). 58% were in the specialist division of the register and 39% were in the general division and 0.7% in the supervised division. 56% had gained their Basic Medical Qualification (BMQ) in Ireland and a further 14% within the EU. Respondents were representative of the survey population, with slight over representation of men (61.2% vs 57.7%) and doctors registered in the general division (39.3% vs 36.5%). There was good representation across specialties and countries of Basic Medical Qualification. Graduates of Irish medical schools were slightly under-represented in the General Division (29.4% vs 27.4%) and overrepresented in the Specialist division (73.8% vs 79.4%).

The majority of respondents held positive views on the general benefits of MPC, agreeing that it reassures patients and the public (65%), encourages doctors to continually learn and keep up to date (77%) and raises the standard of practice of all doctors (62%). At a more personal level, being

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encouraged to participate in educational activities was the most agreed benefit (70%), followed closely by being encouraged to reflect more on one's professional development (67%).

When the benefits were set against the time, effort and expense involved in the process only 51% agreed that MPC was a worthwhile exercise (see Figure 1) and 38% agreed with the statement that MPC was a tick box exercise (see Figure 2). MPC was considered to have resulted in changes in practice by a small majority (53%). MPC wasn't seen as being particularly important to patients (57%) or to colleagues (56%) and only 58% felt that non-compliance risked removal from the register.

Figures 1 and 2 here

Barriers to participation in MPC

The main barriers to participation were lack of protected time and expense (see Fig. 3). Expense of locum cover to allow participation in CPD was also a significant barrier. Audit skills were lacking in a significant minority (27.2%). Doctors </= 34 years of age or over 55 years were more likely to report these difficulties (35% and 32% respectively p<0.001).

A small group of doctors (12.8%) did not understand what they were required to do to maintain professional competence. A small majority (55%) agreed that current arrangements and information were sufficient. A significant minority expressed ambivalence or dissatisfaction with their ability to access high quality CPD. 49% disagreed or were ambivalent towards the statement that they match their choice of CPD to their learning needs.

Respondents provided over 1,300 comments relating to barriers to meaningful participation in MPC. Six themes, with associated subthemes, were identified, and are outlined in Table 2 below, ranked by frequency. Illustrative quotes are shown along with the respondent's area of practice, area of basic medical qualification (BMQ – Ireland, Other EU, non EU), and division of the register.

Figure 3 here

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Table 2. Barriers to meaningful engagement with MPC - themes and subthemes

Barriers	Barrier Subthemes
Time involved in meeting the requirements of MPC	Time for participation in MPC activities ○ Workload ○ Travel to attend CPD activities ○ Recording MPC activities MPC time vs personal time
Expense of participation in MPC	Cumulative expense of MPC Impact of expense on the selection of CPD activities Insufficient CPD funding Expense related to specific groups of doctors
Availability and quality of CPD activities	Lack of relevance of CPD courses to scope of practice ○ CPD too general, not specialised ○ Repetitive content ○ Lack of recognition of all professional activities ○ Lack of value for money Difficulty of accessing CPD course ○ Geographical location ○ Short notice of upcoming CPD courses ○ Poor availability of online CPD courses ○ Limited number of places available on CPD courses
Employment status	Working abroad ○ Employed outside of Ireland ○ Recently returned to Ireland after working abroad Not employed in Ireland (looking for jobs) Non-fulltime employment Maternity or sick leave Non-clinical role
Record-keeping	Tedious and time-consuming process Cumbersome online platform
Audit	Lack of skills, training and support Frequency of audit Lack of relevance to scope of practice Time-consuming process

Consistent with the Likert-scaled responses, the time and expense of participation in MPC were the most frequently cited barriers.

Time involved in meeting the requirements of MPC

> ***'After a 10-12 hour very difficult day it can really interfere with personal time leading to stress and reduces time for family and friends. Due to increased pressures in primary care, paper work on call practice management etc. CPD while obviously very worthwhile has to be squeezed in and this leads to some resentment and less time for personal reading of which only 5 points are allocated.' (GP, BMQ Ireland, specialist division)***

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Expense of participation in MPC

> ***'I am forced to usually only choose free events and local to me due to time and financial constraints, so I do not get to actually choose the things that would be most beneficial educationally. This is because locum costs or costs from family life/babysitters etc. is too much and if there are also course fees it is just not financially viable.' (GP, BMQ Ireland, specialist division)***

Some felt that the allowance or subsidy that they receive for CPD activity was inadequate. Specific groups of doctors such as those on maternity leave, non-partner General Practitioners (GPs), non-consultant hospital doctors (NCHDs) and locums found it particularly challenging to cover the cost related to meeting the requirements of MPC.

> ***'I feel that non-partner/non-[principal] GPs are at a significant disadvantage, the cost of CPD in addition to paying out of pocket for Medical council etc. None of these costs are tax deductible for us. Everything is straight out of our pocket. We do not get a payment for study leave as [GP principals/ partners] do. We also face discrimination .. as we have to continue to complete CPD with no maternity leave payments.' (GP, BMQ Ireland, specialist division)***

Availability and quality of CPD materials

The availability of CPD to match doctors' scope of practice, and the quality of the CPD, were the main barriers under this theme. Repetitive content, the geographical concentration of events in Dublin, and poor availability of online courses were cited.

> ***'The standard of educational activities provided by the relevant training bodies can be quite weak and repetitive in Ireland.' (Psychiatry, BMQ Ireland, specialist division)***

Employment Status

Doctors not in fulltime clinical employment in Ireland found it challenging to meet the requirements of MPC.

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'Working as a locum or as a sessional doctor for short periods is a barrier to carrying out audit. Maternity leave - possible to get external points but internal points and audit difficult to impossible. I was informed that I could make it up in later years. I do not think it is fair to ask people to do an extra audit to make up for time off on maternity leave. I moved city yearly since starting the CPD scheme and worked as locum, sessional work and other jobs. In that time, I also had a maternity leave… I found it difficult in those years to make up points'. (GP, BMQ Ireland, general division)

Record Keeping

Recording of CPD activities on cumbersome online platforms was identified as a further barrier.

'The process of recording activity through the online portal is a very tedious and time consuming. ….sitting down to spend a considerable amount of time engaging with the process is demoralising'. (Obstetrics and gynaecology, BMQ Ireland, specialist division)

Audit

Participants cited the audit as a barrier to participation in MPC. Issues relating to the audit included the lack of training, skills, and information provided on how to conduct an audit. Many participants regarded audit as a pointless exercise with no clear benefit. Others believed audit was irrelevant to their practice and "only suitable for academics". Some participants thought that the yearly audit was excessive and onerous, and would prefer an audit spread over a number of years.

Suggestions for Improvement of MPC processes

The majority of respondents (58%) were not in favour of using patient feedback as part of MPC. Using feedback from colleagues also received a tepid reception with 51% agreeing that they would welcome it. 61% would like to see a quality improvement initiative option. Recommendations for improvement mirrored the barriers identified. Suggestions for improvement captured by the open-ended survey question are thematically outlined in Table 3 below, and ranked by frequency.

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Table 3. Suggestions for Improvement of MPC processes ranked by frequency

Suggestion	*Subthemes*
Remove or change audit	Remove audit Reduce audit frequency Audit alternative
Provide additional support	Make allowances for individual circumstances Provide more information
Increase the quality and range of CPD activities	Provide more online courses Increase the quantity, quality and variety of local CPD courses
Reduce the expense of PCS and CPD courses	Subsidise CPD activities Provide locum cover Make expenses tax deductible
Changes to current scheme	Change points system Introduce new methods Place more emphasis on learning Make participation voluntary
More protected time	
Tailor PCS to specialty or scope of practice	Specialty specific requirements and courses Recognition of non-clinical roles (i.e., credit for teaching)

The most frequent suggested improvement was to remove or change the audit component.

'The requirement to complete a full audit cycle within one year every single year encourages you to pick a subject dealing with small numbers so that it can all be completed in time. In my opinion, you should be allowed to carry out larger audits over a period of two or three years which would provide more useful and comprehensive information and therefore be much more beneficial. You could easily show evidence of working on the audit every year and this should be enough to satisfy the Medical Council in my view.' (GP, BMQ Ireland, specialist division)

Participants felt that additional support should be provided by making allowances for individual circumstances and providing more information.

Allow excess points to be carried over from one year to the next. I feel the Colleges should be more aware and sensitive to individuals' circumstances e.g. illness, bereavement etc. (Radiology, BMQ Ireland, specialist division)

Provision of more online CPD, as well as improving the quality and quantity of offerings would make MPC a more useful experience for participants.

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The body should be responsible for providing mandatory free online and in person educational activities, seminars and meetings covering all medical updates and specialties. (Psychiatry, BMQ non-EU, general division)

There were a variety of suggestions as to how expense of MPC could be reduced, including greater subsidies, provision of locum cover, and making expenses tax deductible. Further suggestions included making changes to how CPD points are awarded, introduction of new methods to evaluate doctors and placing more emphasis on learning.

The basic premise of most educational activities being offered in these schemes as being of educational value is flawed. There is little value in sitting in a conference from an educational point of view. Learning needs to be more active and self-directed. Most CPD schemes to not facilitate this in any meaningful way. (Medical specialty, BMQ non-EU, general division)

In Ireland doctors' entitlement to study leave varies according to role. Those not currently entitled to such leave identified this as an area to be addressed.

We should have protected time included in our contract. It's ridiculous having to go at night in the winter and give up weekend family time to go to meetings. (GP, BMQ Ireland, general division)

Finally, respondents suggested greater tailoring of the requirements of MPC to doctors' scope of practice.

PCS at the moment is general and you can fill education or courses you like. I think it would be more productive if stratified into subspecialties, that might help people stay more focused and sharp into one speciality and relevant education. (Medical specialty, BMQ non-EU, general division)

Confidence in ability to meet requirements of MPC

87% of respondents agreed that they were confident that they could meet the requirements of MPC. A proportional odds regression model showed that confidence in meeting requirements was related to more positive attitudes to MPC, but not related to respondent characteristics e.g. gender or division of the register.

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In total, over 700 doctors said they were not confident that they could meet requirements. Of these, 315 provided comments explaining why they lacked confidence. Five main reasons and associated subthemes were identified, which are outlined in Table 4 below and ranked by frequency.

Table 4. Reasons for lacking confidence in ability to meet requirements of MPC

Reason	Subthemes
Employment status	Not in full-time practice Non-clinical role Maternity leave Working abroad Sick leave Career break
Lack of time	Cover for clinical work Busy clinical workload Personal/family time
Audit	Time Lack of skills, training and support Employment status
Expense	
Quantity and quality of CPD courses	Lack of relevant CPD courses Not enough online courses

Intention to comply with MPC

77% stated that they intended to comply with requirements. 23% were either unsure or disagreed.

Associations between Likert-scaled survey items and intention to comply were estimated using proportional odds regression models. This confirmed the relationship between intention to comply and positive attitudes to MPC, weaker endorsement of barriers to MPC, stronger endorsement of facilitators and stronger endorsement of social norms e.g. importance to patients. This was similar to the findings in relation to confidence of ability to comply.

Relationship between gender, region of Basic Medical Qualification, division of the register, role, service model, nationality and intent was significant only for gender and region of BMQ. Men and

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those who obtained their BMQ outside Ireland were more uncertain of their intention to comply with the requirements of MPC.

Discussion

This study was the first national survey of doctors' attitudes towards Maintenance of Professional Competence since its introduction in Ireland in 2011. While attitudes to MPC were generally positive, up to one-third of doctors were unconvinced of its impact. The time, effort and expense involved in MPC outweighed any perceived benefit for half of doctors. A significant minority (38%) felt that MPC is a tick-box exercise and over 40% did not view MPC as important to patients or colleagues, or consequential in terms of sanction from the Medical Council. Seventy-seven percent of respondents stated a definite intention to comply with the requirements of MPC, which is surprisingly low in the context of the legal requirement to do so. Those who were less certain of intention to comply held more negative views of the process, in terms of general attitudes, perception of impact on own practice and endorsement of the presence of multiple barriers to participation. These findings point to the importance of convincing doctors that MPC is worthwhile. Being male, or having a Basic Medical Qualification from outside Ireland also predicted greater likelihood of not expressing firm intention to comply.

Engaging doctors in MPC in a meaningful way requires clear communication of the purpose of the process and explicit linkage of the mandated activities to that purpose. Confusion about the objectives of MPC and lack of evidence of its effectiveness have hampered doctors' commitment to the process internationally [6, 14]. The findings of this research suggest that a similar situation prevails in Ireland. While promotion of MPC and the PCS schemes in Ireland refer to doctor competence, quality of care and patient safety [9], the requirements currently in place are aimed primarily at assuring doctors' attendance at approved CPD sessions. The relationship between CPD and competence, quality of care and patient safety is supported by limited evidence [3, 15], which

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may explain the significant minority of doctors who were unconvinced of its impact in enhancing standards of medical practice and reassuring the public.

Furthermore, 49% of respondents to our survey disagreed or were ambivalent towards the statement that they match their choice of CPD to their learning needs. Qualitative comments suggest that convenient timing and location, availability and expense contribute to the choice of CPD undertaken. Thus, MPC can become a tick-box exercise, focussed on scoring the required points before the annual deadline rather than meeting learning needs. While the compulsory annual audit might have been expected to be a useful activity embedded in doctors' day-to-day practice, our findings suggest that, on the contrary, it is seen by many a time consuming and ineffective exercise. Comments suggested that the single year timeframe forces a decision to do small scale audits that have little perceived impact. This goes some way to explaining why only 53% of respondents agreed that their own practice had been impacted by participation in MPC. Removal of the audit, or change to the requirements relating to it was the most frequent suggestion to improve MPC. The literature suggests that any model of MPC that seeks to impact practice should feature a facilitated approach through activities such as regular performance review, appraisal, mentoring, etc. [3], something that is lacking in the current Irish system. Facilitation can involve exploration of learning needs, targeted choice of CPD, and linking audit to practice. It has also been shown to provide emotional support and to enhance engagement with the process [16]

Inadequate resourcing of MPC was evident in the barriers to engagement identified by respondents. Time associated with participating in the MPC process was the greatest barrier. Heavy workload, requirement to travel and to record CPD activities, and the demands this placed on personal time were amongst the difficulties arising. Respondents repeatedly referred to the need for funded protected time for MPC, including provision of locum cover. The current strain in the Irish health system, with short-staffing and heavy service demands, can make it challenging for those entitled to study leave to take it. Time constraints are cited internationally as a barrier to MPC [17, 18].

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Expense of participation in MPC was the second most endorsed barrier. Internationally the question of who should bear the expense of MPC is a hotly contested topic. Our respondents' comments echo the concerns of doctors in other jurisdictions that MPC is a money-making exercise for those who regulate and run programmes [15]. Doctors pay annual registration fees to the Medical Council, membership or fellowship fees to postgraduate training bodies and,professional indemnity fees. The addition of a fee for enrolment in a Professional Competence Scheme, fees for CPD activities and the associated locum cover, travel and accommodation, add up to significant expense. Respondents indicated that this is an issue particularly for doctors for whom professional expenses are not tax deductible and who may not have a CPD allowance; those working less than full-time, as non-consultant hospital doctors or salaried GPs and those taking maternity/parental or sick leave. While some doctors do have an allowance for CPD activities this varies across different groups and is not universal.

If MPC programmes are to be successful, CPD to match learning needs must be readily available and of high quality. Respondents commented that available CPD was of limited range and tended to be repetitive. Geographical location, excessive expense, inadequate advertising/notice and limited places all contributed to inaccessibility of current CPD offerings. A strong preference for greater availability of online learning was expressed, as well as greater variety and better quality courses outside Dublin. Recent work in the Irish context has documented the broad CPD needs of both GPs and hospital consultants and provides useful information to support more effective provision of CPD [19–22].

The vast majority of doctors understood what the requirements for MPC were, but many did not find PCS sufficiently flexible or information provided adequate. Foremost amongst suggestions for improvement was the provision of more information and support for doctors. Greater flexibility, reflecting recognition of the individual circumstances of doctors, e.g. sick leave, was also felt to be important. This included allowing greater flexibility between categories of points and requiring fewer

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points from part-time workers. The arbitrary nature of the threshold of 50 CPD points would suggest that these are reasonable suggestions.

There is a subgroup of doctors for whom the combination of expense and the specific requirements of MPC present a real challenge. Thirteen percent of respondents expressed lack of confidence in their ability to meet MPC requirements. The main reason cited for lack of confidence was employment status. Meeting the requirements of MPC is particularly challenging for those working less than full-time, in locum posts, in non-clinical roles, taking maternity or sick leave and those living outside Ireland for part of the year. Again, this is something that is common across other jurisdictions [23]. Greater flexibility in requirements would support participation amongst this group.

Strengths and limitations

Amongst the strengths of this study are the diverse stakeholders involved in the research, the strong response rate to the questionnaire and the representativeness of the respondents. Survey design was undertaken in accordance with best practice, informed by literature and theory. Post hoc analysis of the survey confirmed its validity. Although the response rate to the survey was excellent there were still large numbers of non-responders. We cannot be sure that the findings presented here represent the views of non-responders.

Conclusions

We have presented the views of over 5,000 doctors participating in MPC in Ireland. The problems with implementation of MPC identified in this study are not unique to the Irish context. As MPC continues to evolve internationally other jurisdictions grapple with the same challenges. Enhancing doctors' engagement in MPC in Ireland will require a comprehensive strategy focussed on better communication, adequate resourcing and ongoing evaluation of the process.

Contributorship statement

DB designed the study. JOF, AW, JC and DB designed the questionnaire. JOF and JC administered the questionnaire and collected the data. DD performed the statistical analysis. All authors contributed

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to the analysis and interpretation of the data. EG, AW and DB drafted the paper which was edited and approved by all authors. All authors have agreed both to be personally accountable for their own contributions and to ensure that questions related to the accuracy or integrity of any part of the work, even ones in which the author was not personally involved, are appropriately investigated, resolved, and the resolution documented in the literature.

Competing interests

Two of the authors, Janet O'Farrell and Jantze Cotter, are employed by the Medical Council of Ireland. The Medical Council of Ireland is the regulatory body for doctors responsible for the Maintenance of Competence programme that is the focus of this research.

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Data sharing statement

The datasets generated and/or analysed during the current study are not publicly available due to participants not having consented to public availability, but are available from the corresponding author on reasonable request.

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Figure legends

Figure 1. Distribution of responses to the statement that MPC provides benefits that are worth the time, effort and expense involved

Figure 2. Distribution of responses to the statement that MPC is a tick box exercise

Figure 3. Barriers to meaningful engagement with MPC

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Declarations

Ethics approval and consent to participate

Ethical approval was granted by the Social Research Ethics Committee, University College Cork. Reference no. 2017-118

Consent for publication

Not applicable

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We are grateful to Ireland's doctors who shared their perspectives with us on this important topic in great numbers.

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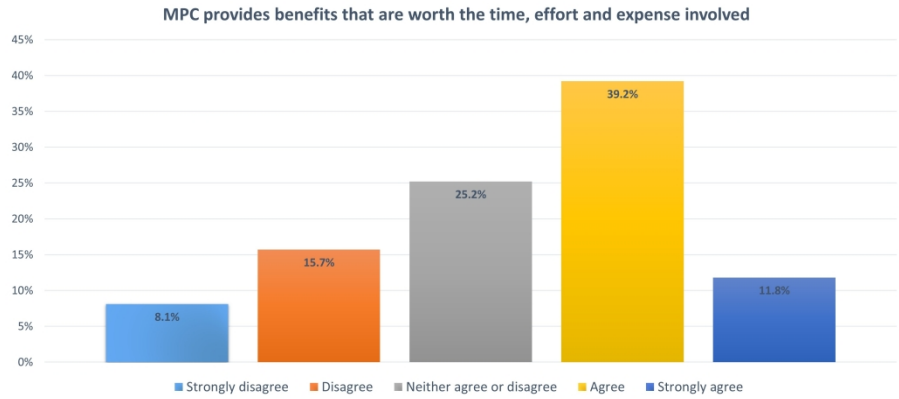

Figure 1. Distribution of responses to the statement that MPC provides benefits that are worth the time, effort and expense involved.

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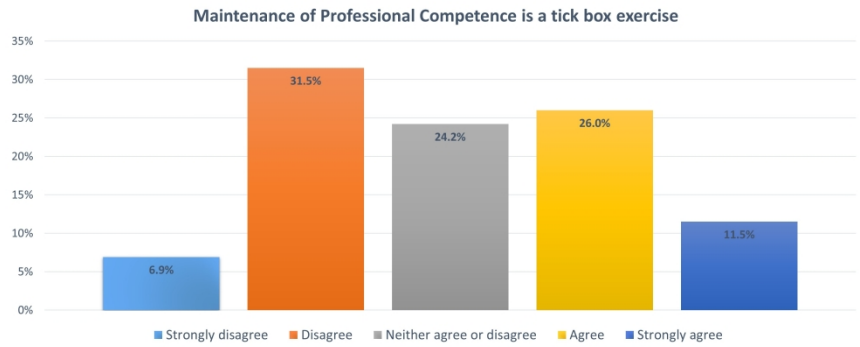

Figure 2. Distribution of responses to the statement that MPC is a tick box exercise

338x190mm (300 x 300 DPI)

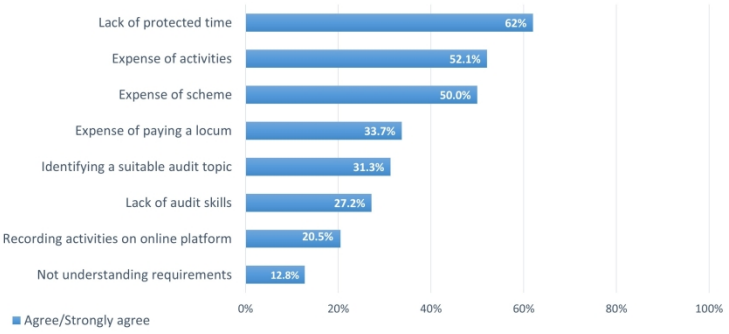

Figure 3. Barriers to meaningful engagement with MPC

338x190mm (300 x 300 DPI)

APPENDIX A – SURVEY QUESTIONNAIRE

Since 2011 doctors have been required to demonstrate Maintenance of Professional Competence by enrolling in Professional Competence Schemes and recording their educational activities. This survey is about your attitudes to and experience of participation in Maintenance of Professional Competence. Your responses should relate to your experience in IRELAND ONLY.

Maintenance of Professional Competence	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1. Reassures patients and the public that doctors are fit to practice	1	2	3	4	5
2. Encourages doctors to continually learn and keep up to date	1	2	3	4	5
3. Raises the standard of practice of all doctors	1	2	3	4	5
Participation in Maintenance of Professional Competence	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
4. Encourages me to reflect more on my professional development	1	2	3	4	5
5. Encourages me to participate in more educational activities	1	2	3	4	5
6. Has resulted in changes in my practice	1	2	3	4	5
7. Provides benefits that are worth the time, effort and expense involved	1	2	3	4	5

Please indicate your agreement with these statements about BARRIERS to **your own** engagement with Maintenance of Professional Competence in Ireland	Not applicable	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1. I do not understand what I am required to do for Maintenance of Professional Competence		1	2	3	4	5
2. Lack of protected time makes it difficult to undertake activities to earn points	0	1	2	3	4	5
3. The expense of the annual Professional Competence Scheme fee is a barrier		1	2	3	4	5
4. The expense of Continuing Professional Development(CPD) activities is a barrier		1	2	3	4	5
5. The expense of paying a locum to allow me to attend CPD activities is a barrier	0	1	2	3	4	5
6. The requirement to record my learning activities through an online platform has been a barrier		1	2	3	4	5
7. Lack of audit skills has been a barrier		1	2	3	4	5
8. Difficulty identifying a suitable audit topic has been a barrier		1	2	3	4	5
9. Please provide details of any other barriers or reasons for not participating in Maintenance of Professional Competence here:						

Please indicate your agreement with the following statements about factors which SUPPORT **your own** engagement with Maintenance of Professional Competence in Ireland	Not applicable	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1. The CPD activities I need to address gaps in my knowledge and practice are currently available		1	2	3	4	5
2. I can access high quality CPD activities		1	2	3	4	5
3. My Professional Competence Scheme provides enough flexible ways to meet requirements		1	2	3	4	5
4. My Professional Competence Scheme provides useful information to help me to meet requirements		1	2	3	4	5
Please indicate your agreement with the following statements	Not applicable	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
5. Maintenance of Professional Competence is a tick box exercise		1	2	3	4	5
6. I match my CPD activities to gaps in my knowledge and practice		1	2	3	4	5
7. I would welcome the opportunity to use patient feedback to demonstrate my professional competence	0	1	2	3	4	5
8. I would welcome the opportunity to use feedback from colleagues to demonstrate my professional competence		1	2	3	4	5
9. I would welcome the opportunity to submit a quality improvement initiative rather than an audit	0	1	2	3	4	5
10. I am concerned that information I provide to my Professional Competence Scheme about my knowledge and practice could be used against me if my competence was in question		1	2	3	4	5
11. It is important to my patients that I meet the requirements for Professional Competence	0	1	2	3	4	5

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12. It is important to my colleagues that I meet the requirements for Professional Competence		1	2	3	4	5
13. Doctors who do not participate in Maintenance of Competence risk being removed from the register		1	2	3	4	5
14. I am confident that I can fulfil the requirements for Maintenance of Competence		1	2	3	4	5
15. If you are not confident of meeting the requirements for Maintenance of Competence, please indicate why not here						
16. Please rate your intention to comply with requirements for Maintenance of Competence in the future	Intend not to comply	Probably won't comply	Unsure about my intentions	Probably will comply	Intend to comply	
17. If you could change two things about Maintenance of Competence/ Professional Competence Schemes to make them more relevant, efficient and effective for you, what would they be?						
Would you be willing to participate in a **confidential interview** on the topic of Professional Competence Schemes.? We are particularly interested in talking to doctors who have not enrolled or participated, or who have found doing so difficult.	YES/NO					
If so please provide an email contact						

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STROBE Statement—Checklist of items that should be included in reports of ***cross-sectional studies***

	Item No	Recommendation	
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	See pg 1
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	See pg 2
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	See pg 4-5
Objectives	3	State specific objectives, including any prespecified hypotheses	See pg 5
Methods			
Study design	4	Present key elements of study design early in the paper	See pg 4-5
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	See pg 7
Participants	6	(*a*) Give the eligibility criteria, and the sources and methods of selection of participants	See pg 7
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	See pg 6-7
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	See pg 6
Bias	9	Describe any efforts to address potential sources of bias	See pgs 6 and 8
Study size	10	Explain how the study size was arrived at	See pg 7
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	See pgs 7-8
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	See pgs 7-8
		(*b*) Describe any methods used to examine subgroups and interactions	See pgs 7-8
		(*c*) Explain how missing data were addressed	N/A
		(*d*) If applicable, describe analytical methods taking account of sampling strategy	N/A
		(*e*) Describe any sensitivity analyses	N/A
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	See pg 8
		(b) Give reasons for non-participation at each stage	N/A
		(c) Consider use of a flow diagram	N/A
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	See pg 8
		(b) Indicate number of participants with missing data for each variable of interest	N/A

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Outcome data	15*	Report numbers of outcome events or summary measures	See pg 9
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	N/A
		(*b*) Report category boundaries when continuous variables were categorized	N/A
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	N/A
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	See pg 9
Discussion			
Key results	18	Summarise key results with reference to study objectives	See pg 16
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	See pg 19
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	See pgs 16-19
Generalisability	21	Discuss the generalisability (external validity) of the study results	See pg 20
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	See pg 23

*Give information separately for exposed and unexposed groups.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at http://www.plosmedicine.org/, Annals of Internal Medicine at http://www.annals.org/, and Epidemiology at http://www.epidem.com/). Information on the STROBE Initiative is available at www.strobe-statement.org.

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