

10. The Continuum of Medical Education

A White Paper Prepared for the Royal College of Physicians and Surgeons of Canada, Future of Medical Education in Canada

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Summary of Key Points

- This paper focuses on two main areas:
 - Transitions that trainees undergo as they progress through medical education, and into medical practice
 - The skills of lifelong learning and how they can be better emphasized to prepare physicians for the self-directed learning that must take place during practice
- Literature does exist around transitions in medical education; however the bulk of the existing work has not emphasized the transition between the end of PGME and the entry to practice
- The working group feels that more structured support during these transitions is needed, including the potential for a “junior doctor” stage prior to entering practice, which is supported by mentorship and supervision.
- Furthermore, the group believes that the concepts of lifelong learning need to be taught early in medical training, perhaps as early as medical school, to better prepare graduates with the skills that they’ll need for a career of self-directed learning.
- A number of barriers, including a lack of flexibility in training standards, a lack of structure in continuous professional development, and the need for supports to educate not just residents but also faculty in the skills of lifelong learning, need to be overcome in order to realize the potential benefits, which include better integration of physicians within the health care system.

Summary of Recommendations

1. Introduce the concepts of lifelong learning with MOC and MAINPRO developed to support physicians early in training, possibly as early as medical school.

2. Develop systems to provide feedback data to practicing physicians, assist them in interpreting it and use it to create individualized learning plans that can be implemented and potentially impact on the care of their patients.
3. Identify the appropriate structures and expectations for transitional periods. New courses common to all may be needed. Mentorship and other supervised training may be needed. Additional attention to the role of the manager towards the end of training (i.e., after the certification examinations) would facilitate assumption of duties as an independent practitioner.
4. Standardize “transitions” training within clerkship and residency programs.
5. Stimulate innovations in transitions training within the clerkship and residency program. The RCPSC specialty certification examinations should be completed sooner (e.g., six months before the training program finishes). This would allow for a formal junior staff period at the end of training with supervision and mentoring enabling a more graduated transition into practice.
6. Call for more research to understand professional practice transitions and to develop and test transitional support systems.

10. Le continuum de la formation médicale

Livre blanc préparé pour le Collège royal des médecins et chirurgiens du Canada:
L'avenir de l'éducation médicale au Canada

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Sommaire des principaux enjeux

- Ce document porte principalement sur deux domaines de première importance :
 - les transitions que vivent les étudiants en médecine au fil de leur parcours dans la formation médicale et au moment de passer à l'exercice de la médecine;
 - les compétences d'apprentissage continu et les façons de mieux les valoriser pour préparer les médecins à l'apprentissage autodirigé auquel ils doivent s'adonner durant leur pratique.
- Il existe de la documentation sur les transitions pendant la formation médicale; toutefois, la majeure partie de ces travaux n'aborde pas la transition de la fin de la FMPD à l'entrée en exercice.
- Le groupe de travail est d'avis qu'il est nécessaire de fournir davantage de soutien structuré durant cette transition, et même d'instaurer éventuellement une étape de « médecin débutant » préalable à l'entrée en exercice, au cours de laquelle les candidats agiraient sous supervision et auraient le soutien de mentors.
- En outre, le groupe estime que les concepts d'apprentissage continu doivent être enseignés tôt dans le parcours de l'éducation médicale, probablement dès la formation dans les facultés de médecine, afin de mieux préparer les diplômés à acquérir les compétences dont ils auront besoin pour leur carrière d'apprentissage autodirigé.
- Il faudra surmonter un certain nombre d'obstacles, dont un manque de souplesse dans les normes relatives à la formation, des lacunes dans la structure du développement professionnel continu et la nécessité d'instaurer des mesures de soutien à l'éducation, non seulement des résidents, mais aussi des membres des corps professoraux, afin de concrétiser les avantages potentiels dont une meilleure intégration des médecins dans le système de santé.

Sommaire des recommandations

1. Intégrer les notions d'apprentissage continu dans les programmes de MDC et de maintien des compétences professionnelles conçus pour soutenir les médecins au début de leur formation, possiblement dès le commencement des études dans les facultés de médecine.
2. Élaborer des systèmes pour fournir des données de rétroaction aux médecins en exercice, aider ceux-ci à interpréter ces données et à les utiliser pour créer des plans d'apprentissage individualisés qu'ils pourront suivre et qui pourraient avoir une incidence sur les soins qu'ils dispenseront à leurs patients.
3. Cerner des structures et des attentes appropriées pour les périodes de transition. Il sera probablement nécessaire de mettre sur pied de nouveaux cours communs à tous, ainsi que des programmes de mentorat et de formation supervisée. Une attention plus soutenue accordée au rôle du gestionnaire vers la fin de la formation (c.-à-d. après les examens menant à la certification) faciliterait pour les médecins la prise en charge de leurs fonctions à titre de praticiens autonomes.
4. Uniformiser la formation donnée pendant cette période de transition (programmes de stages et de résidence).
5. Stimuler l'innovation en ce qui concerne la formation offerte en période de transition dans les programmes de stages et de résidence. Le Collège royal devrait faire passer les examens de certification des spécialistes plus tôt, par exemple, six mois avant la fin du programme de formation. Il serait ainsi possible d'instaurer une période formelle en qualité de médecin débutant, comprenant supervision et mentorat, qui donnerait lieu à une transition plus graduelle vers la pratique.
6. Réclamer des recherches supplémentaires pour mieux comprendre les périodes de transition dans la pratique professionnelle, ainsi que pour élaborer et mettre à l'essai des systèmes de soutien à la transition.

The Continuum of Medical Education

Introduction

The continuum of medical education includes four distinct periods of learning: pre-admission to medical school, undergraduate, postgraduate and professional development. In Canada, these periods are fairly rigid demarcations governed by distinct accreditation, examination/assessment processes and governing organizations. Each phase is characterized by transitions: entry into medical school, pre-clinical to clinical, undergraduate to postgraduate (residency), and residency to practice. These transitions require the person to reform their way-of-being and identity in fundamental ways¹ as the person assumes new roles and meets new expectations. While the transitions are acknowledged, variable attention has been paid to the transitions and ways that they can be eased to optimize success.

This white paper will examine the transitions that physicians make. It will consider the support which physicians receive as they make transitions. It will identify the problems that physicians have as they proceed to become independent practitioners and also what happens when they make significant changes to roles over the course of their practice years. We will propose solutions but also identify potential barriers to changing the status quo along with the benefits of making changes. We will conclude with recommendations to facilitate physician change. It is hoped that the paper can provide a framework for others considering transitional periods.

Background

The initial transition into medical school and from pre-clinical to clinical in undergraduate education can be difficult for many students as they cope with understanding new roles and responsibilities, adjusting to a very different culture, learning and then performing clinical skills, and learning the logistics of clinical settings². Others have commented on the difficulties medical students face related to professional socialization, workload as well as their deficiencies in knowledge and the organization of knowledge³. To help undergraduates begin their clerkship program, most schools have implemented transition courses that cover the content relevant to the key elements of workplace learning including the roles and expectations of clerks, stress management and procedural skills. Unfortunately, most of the

courses do not include practice in clinical settings, instead favoring didactic sessions and hands-on practice. Few schools include practice in clinical settings as part of their transition course⁴.

In the transition from undergraduate to postgraduate training (residency training), studies suggest that higher levels of preparedness appear to be associated with specific types of curriculum (i.e., problem based learning)⁵ and clinical experiences that include higher levels of hands-on experience, patient contact and clinical exposure.^{5 6 7} Institutional conditions, particularly those in which there are good interpersonal workplace and relationship experiences, are also noted to effect smoother transitions⁸ as well as the degree to which the junior physician can be integrated into the team.⁹ Undergraduate programs need to ensure that students have meaningful exposure to patients in a high quality environment to ensure an optimal transition.

For practicing physicians, there may be two transitions (or more), the transition that physicians face as they enter practice following post graduate training and transitions that occur during the course of their practice years. The first transition into independent practice has been more fully studied and noted to be as difficult for some physicians as previous transitions^{1 10 11 12 13}. These studies have described the personal transformations physicians encounter as they come to terms with their identity in a new role with new expectations.^{1 11 13} While it may be difficult, this transition is eased by support from friends and colleagues.^{12 13} Additional sub-specialty training appears to improve confidence.¹² For some, the final certifying examinations are a signal that formation as an independent practitioner is complete. In fact, the certifying examination should be a signal that the physician is entering a new phase of learning.

The transitions that physicians experience during the course of practice are not as well documented. These transitions may occur in response to a community or personal need (i.e., narrowing the practice to a very focused area); scientific advances which require additional training and supervision by those who need to maintain currency in the discipline; the assumption of new roles as a researcher, administrator, or educator; the pursuit of advanced degrees; a move to a new community, province or country; re-entry into practice following a leave; leaving practice; or the identification of a need for remedial training. These transitions may be occurring at the same time as other life transitions (marriage, children, divorce, and retirement). They may also be part of the natural stages of a career:

breaking in, fitting in, and getting out.¹⁰ Further as the health care system and expectations change, physicians must adapt to workplace changes. The literature about general practitioners who transition into practice from another country into rural practice in Canada shows that the learning curve can be steep as physicians adapt to differences in diseases and their management and systems of care while ensuring that their families are comfortable in new settings.^{14 15 16} In response to the transition experienced by physicians new to the country, Canadian studies have encouraged the establishment of formal orientation and mentorship programs to help physicians establish themselves in practice.¹⁵ ¹⁶ For many physicians, mentorship is an informal process and can provide challenges when the mentor is also in an evaluative role or has a conflict of interest.¹⁷ There is less known about the factors that facilitate successful transition in practice. It is likely that these are dependent on how substantial the learning tasks are, the support available from colleagues, family and friends, time available for reflection, personal ability and motivation.

The transition into practice and within practice marks the first time that formal curriculum and assessment procedures are largely left in the hands of the physician. In previous transitions, standards for competence were established by the school, Medical Council of Canada, and the Royal College of Physicians and Surgeons of Canada or the College of Family Physicians of Canada. They occur within training programs that are marked by continuous feedback and interim and final examinations. For the practicing physician, standards are less explicit and emerge from clinical practice guidelines, local and national standards of care, and the actions of the regulatory authorities. Stimuli for learning at the independent practitioner level emerge from service with learning tied intimately to patient needs and perceptions of what is needed. Unfortunately, while lifelong and self directed learning are important principles for undergraduate and post graduate trainees, the skills are rarely well developed in these structured environments. Further, when physicians enter practice, there is an absence of high quality feedback to drive learning.^{18 19} Unfortunately, the worst accuracy appears to be among physicians who are least skilled and most confident.²⁰

Drivers for Change

Currently, there are a number of drivers for change. It is increasingly recognized that there is a lack of structured support for individuals. Further residency programs and their associated institutions may offer an inconsistent and ad hoc approach to the transition

period. This can cause undue stress, reduce productivity and effectiveness, and delay full integration into the workplace. Medical schools are recognizing their responsibility to support their students and trainees in the transition period and to prepare learners to be life-long learners. For example, undergraduate programs have developed courses to prepare their graduates for the clerkship and residency programs have orientation programs.⁴ Residency programs might benefit from a similar approach, offering a structured orientation/transition with lighter workloads so that trainees can assimilate more comfortably. Similarly, University CPD units, provincial medical associations, regulatory authorities, and health care institutions might consider how best to support new certificants with formal courses, mentorship and lighter workloads initially. Social media may be helpful as well along the continuum.

The skills of lifelong learning need to be incorporated into residency and CPD. The RCPSC has a curriculum for lifelong learning applicable to both PG and CPD. This curriculum, if more widely adopted, has the potential to help residents prepare for practice. This curriculum has five core elements of helping the learner to recognize the importance of information literacy; knowing their practice; scanning so that new perspectives can be added and old ideas abandoned; learning from practice systematically; and identifying and incorporating tools to assess one's practice. It is equally applicable to physicians in practice.

At the CPD level, there is increasing recognition that the types of CPD programs being offered by either Universities or national specialty societies are sub-optimal. Most CPD consists of short courses and conferences or rounds. While this approach supports additive and cumulative learning, it is rarely robust enough to develop new skills and behaviors.²¹ Further, timing and formats may not match individual learner immediate needs. For major skill development, finding supportive mentors and supervised opportunities can be challenging. The introduction of certificates, diplomas and masters programs may be a helpful way of formalizing instruction and developing new competencies within some disciplines as this approach is likely to formalize the curriculum and assessment. Examples of such curricula currently exist in sleep medicine, patient safety, psychotherapies, and medical education.

Health organizations and provincial governments responsible for delivering care that is accessible, high quality and sustainable are unable to meet the demands they have when

their physician resources are poorly organized and inadequately trained to meet the needs of the population. Regulatory authorities and medical associations faced with recruitment and retention increasingly acknowledge the need to provide more support to practitioners if care is to be safe and effective.

Potential Solutions

The literature suggests a need for two overall directions to support the transitions: improving the skills for lifelong learning and increasing the structured support to physicians in transitional phases.

The skills of life long learning can be taught. Indeed as noted earlier, the RCPSC has introduced a curriculum for lifelong learning. This curriculum is designed to help the physician recognize the importance of guiding their own learning through active reflection, data seeking, and change management practices. Similar efforts are being undertaken in the UK wherein post graduate trainees are introduced to a portfolio approach to learning in which Foundation (PGY1, 2) trainees are responsible for creating a portfolio containing evidence of assessments, reflection on the data, and a plan of action²². This will be carried into practice as the NHS introduces their frameworks for revalidation which require physicians document their learning, their plan of action, and discuss it with appraisers. The newly designed MAINPORT system could be introduced in residency as a mechanism to support trainees conceptualize their learning and document their efforts to attain the necessary competencies in identified areas. This approach will require faculty development, computer infrastructure, new standards for accreditation, and new learning objectives at the specialty and rotation-specific level. For the practitioner, skills of lifelong learning will also need to be enhanced. Recognizing how little data and feedback practicing physicians receive about their practices, efforts will need to be made to ensure that system support is available to train physicians to enter high quality data into electronic record, fund people able to pull data from records, and provide meaningful and usable data to physicians in ways that they can use the data to inform, create and act upon learning plans.

Structured support for pre-determined amounts of time may be helpful to physicians during periods of transition. The majority of North American medical schools have implemented orientation/transition experiences to help students enter clerkship.⁴ More formalized orientations to residency and to practice could be developed. These orientations might

capitalize on the 'learnings' of those physicians who entered residency or practice 1-3 years earlier with a particular focus on the tacit learning required to learn about the uniqueness of the workplace, the health system, and the 'hidden' curriculum. Those responsible for rotation, work and call schedules should ensure that the workload and expectations are appropriate given the stressors associated with the new roles and responsibilities. Ensuring transitioning physicians have time for reflection and access to supportive colleagues will be helpful. Buddy/peer support programs as well as mentorship programs will be helpful.^{17 23 24}

²⁵ As physicians prepare for practice in the latter part of their residency program, specific training requirements in areas like time and practice management may be helpful. It may be appropriate to consider moving the certification exams earlier in the program so that the physicians can better prepare for entry to practice. An earlier examination would also permit the final stage of graduated responsibility to occur (i.e., the point at which physicians assume an independent role) with the context of their residency program. Physicians changing the focus of their practice may be required to demonstrate formal evidence of the new competencies.

Barriers to Change

Residency training is a very structured experience which leaves little latitude for trainees to determine many aspects of their training other than through electives which often offer a limited range of options. Learning objectives for the specialty, rotation specific objectives, the types and timing of assessments are very specific within each training program. Further the system of accreditation which ensures that educational procedures and processes are at a very high standard also restrict flexibility of learning. Even the 'academic half day' which is an integral component of most training programs reinforces the image that learning is something that one does in a 'classroom' not in response to perceived learning needs. By having the certification examination in such close proximity to the end of the training, the examination marks the end of the training. The time currently available after the examinations are complete is insufficient for physicians to begin the new learning required for the next phase.

While physicians will have similar competencies at the end of training, they may not be prepared to be lifelong learners actively seeking out data about their practice and performance, interpreting the data and developing an action plan. Indeed, one of the real challenges of being a lifelong learner is that of data acquisition. Practicing physicians

receive very little feedback about their work. A few will participate in multi source feedback exercises every 5 years, depending on their jurisdiction. Some will have a practice audit. Others will receive feedback through institutional audit systems or through participation in self-assessment programs offered by their national specialty or its US counterpart. The absence of routine and consistent feedback about professional behaviors and clinical outcomes makes it difficult to develop and follow a learning plan. Even when physicians identify learning needs, there are few structures and little help offered. Learning is ad hoc. Physicians must draw on whatever resources they themselves can locate. In some cases, physicians are able to obtain mentored supervision for new skill development. National specialty conferences provide an opportunity for updates and 'tweaking' of knowledge but rarely the development of new skills. Indeed, courses are generally short and have to appeal to large numbers to be financially sustainable and hence rarely address individual needs that might address specific learning tasks. For the physicians requiring remediation, it can be difficult as potential supervisors are over committed training undergraduates and post-graduate trainees. Relatively few potential supervisors are willing to commit the time and effort to assessing, monitoring, and ensuring that the remedial physician is fit for practice. Regulatory authorities and University CPD offices are only beginning to consider the roles they might play in supporting a physician considered who may be at risk based on complaints or other assessment data.

To address the needs of the practicing physician, system changes will be required. CPD is an ad hoc, opportunistic and unplanned experience for many learners. Physicians are rarely able to systematically determine their learning needs and identify appropriate educational experiences. Further, national specialty societies and universities have to appeal to the greatest numbers of physicians; design programs that are financially viable based on registration fees and other grants, and provide the programming in space that is not well designed for educational activities. Further, when physicians want to return for supervised training, there is rarely extra capacity in the system to add the supervision of more learners. New funding or the reallocation of existing funding will be needed to change the resource base for CPD, particularly if meaningful support in the form of mentorship and supervised practice are to be available when needed. Provincial regulatory authorities and the RCPSC/CFPC will have to work together to determine optimal expectations for license renewal, revalidation, and maintenance of certification.

Improving our ability to facilitate life long learning will require changes in several areas. Faculty will have to be trained to change their approach to teaching about learning, to use and assess portfolios and to be good role models. This expectation will need to be supported through the accreditation standards. Practicing physicians will need better data on which to make changes to their practices. Currently our health care systems are not set up to regularly and routinely tell physicians how well they are doing and where they need to focus their learning. Funding will be needed to develop the data and the systems to extract the data. Current administrative databases do not have sufficiently robust systems to extract the data needed to guide physician learning.

Support for transitional periods will require resources to design programs, determine standards, and supervise/mentor physicians through the transition. Currently as medical schools have expanded and larger cohorts of students are entering clinical work, capacity in the system is strained. This will make it difficult to add new expectations.

Potential Benefits

Changes that ensure more consistent support for transitions should ensure better integration of physicians within the health care system able to meet the health care needs of the population. By taking an earlier and more systematic approach to lifelong learning and regarding it as a foundational skill, this will benefit physicians as they transition from residency to practice and their practices evolve. Preparing residents for transition into practice can reduce the stress related to the first few years of practice when several other “life events” also occur (e.g., choosing a life partner, buying a house, beginning a family). Conceptualizing transitions within the career of a physician can provide medical schools, medical associations and specialty societies a framework for providing supports for physicians especially around issues related to work-life balance. Breaking down some of the artificial boundaries between undergraduate, postgraduate and continuing education allows for more flexible training options and choices for students and physicians. In an ideal world, there should be much more opportunity for practicing physicians to return to “residency” type training to learn new skills and knowledge in concentrated intense study periods. Raising the profile and importance of transitions in training and practice can stimulate innovations in training to address these issues. We should be considering graduated fellowships and licensing to more directly address the phenomena of transitioning into practice.

Recommendations

1. Introduce the concepts of lifelong learning with MOC and MAINPRO developed to support physicians early in training, possibly as early as medical school.
2. Develop systems to provide feedback data to practicing physicians, assist them in interpreting it and use it to create individualized learning plans that can be implemented and potentially impact on the care of their patients.
3. Identify the appropriate structures and expectations for transitional periods. New courses common to all may be needed. Mentorship and other supervised training may be needed. Additional attention to the role of the manager towards the end of training (i.e., after the certification examinations) would facilitate assumption of duties as an independent practitioner.
4. Standardize “transitions” training within clerkship and residency programs.
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6. Call for more research to understand professional practice transitions and to develop and test transitional support systems.

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