ROYAL COLLEGE
OF PHYSICIANS AND SURGEONS OF CANADA
COLLÈGE ROYAL
DES MÉDECINS ET CHIRURGIENS DU CANADA

4. The Resident's Dual Role as Learner and Service Provider

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
- The relationship between education and patient care (service) is dynamic and the relative balance shifts as the role of the resident evolves over time.
- Education and patient care are not a dichotomy, but rather patient care is an important medium through which residents learn and no patient contact is without some form of learning.
- With the changes in duty hour regulations, there is a strong impetus to evaluate residency training, including the balance of formal education and patient care, the role of the resident, as well as the model of residency training.
- The complexity of the Canadian PGME system, as well as the unique needs of individual residents and specialties means that many of the changes to residency training will likely need to be tailored on a discipline-by-discipline basis.

Summary of Recommendations
1) The Royal College should support individual Specialty Committees in finding practical ways to meet their Objectives of Training within increasingly restricted work hours, recognizing that issues of service vs. education workload are, to a large extent, specialty specific.

2) The Royal College should take the position that the primary response to restrictions in duty hours not be the lengthening of training. Overall training should be based on achieving competencies set out by the Specialty Committees in their objectives of training document. Alternative methods to adapt to duty hour restrictions should be considered.

3) That, in the light of increasing restrictions on duty hours, the Royal College re-examine its accreditation standards to ensure flexibility in the means of meeting the required objectives set by the Specialty Committees.

4) Residency programs may be designed so that the resident's experience is variably weighted towards service activities or educational activities over the course of training, but the overall program must meet the educational objectives of the Specialty Committee. In situations where there may be questions regarding the service to education balance, the Royal College should facilitate a flexible approach by Specialty Committees in ensuring that all rotations, including those in non-traditional settings, have minimum educational goals. For instance, competency-based educational goals and objectives with clear methods of assessment can be tailored to all rotations, taking advantage of the resident's capacity for self-directed learning, even when those rotations that primarily stress the service component.

5) That, the Royal College through its standards of accreditation and in collaboration with Medical Regulatory Authorities, better standardize definitions of appropriate working hours, appropriate supervision and graded independence for residents at all levels of training, taking into account individual variability.

6) That the Royal College, by modifying its standards of accreditation, better ensure the orientation and acclimatization of junior trainees to their roles as learner and service provider, particularly during the initial transition into residency.

7) That the Royal College work with residency training programs, hospitals and Medical Regulatory Authorities to optimize the clinical learning environment, reconciling the implicit value of clinical care with the demand for efficiency in training. Activities of little educational value should be identified, and as appropriate, delegated to other appropriately trained staff.

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4. Le double rôle du résident : apprendre tout en soignant

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

- La relation entre la formation et les soins aux patients (le service) est dynamique et l'équilibre relatif se modifie comme le rôle du résident évolue avec le temps.
- La formation et les soins aux patients ne constitue pas une dichotomie. Les soins sont des moyens d'apprentissage importants pour les résidents, et tous les contacts avec les patients sont des formes d'apprentissage.
- Avec les changements apportés à la réglementation sur les temps de service, il existe une forte impulsion pour évaluer la formation des résidents, y compris l'équilibre entre l'éducation formelle et les soins aux patients, le rôle du résident et le modèle de formation des résidents.
- La complexité du système canadien de FMPD et les besoins uniques des résidents et des spécialités signifient que plusieurs des changements à la formation des résidents devront être conçus sur mesure, discipline par discipline.

Sommaire des recommandations

1) Le Collège royal devrait appuyer les comités de spécialité pour trouver des moyens pratiques d'atteindre leurs objectifs de formation dans le cadre d'heures de travail de

plus en plus restrictives, reconnaissant que les questions concernant le service par rapport à la charge de travail de la formation sont particulières aux spécialités.

2) Le Collège royal devrait défendre le fait que la réaction première aux restrictions des heures de services ne doit pas être de prolonger la formation. La formation dans son ensemble devrait être basée sur l'atteinte des compétences définies par les comités de spécialité dans leur document sur les objectifs de formation. Des méthodes parallèles pour s'adapter aux restrictions sur les heures de service devraient être prises en considération.

3) Avec les restrictions de plus en plus importantes sur les heures de service, le Collège royal devrait revoir ses normes d'agrément pour assurer une souplesse dans les moyens d'atteindre les objectifs requis définis par les comités de spécialité.

4) Les programmes de résidence peuvent être conçus de sorte que l'expérience des résidents est pondérée différemment en vertu des activités de service ou des activités pédagogiques pendant toute la formation, mais le programme dans son ensemble doit répondre aux objectifs pédagogiques des comités de spécialité. Dans des situations où il est question d'équilibre entre le service et la formation, le Collège royal devrait encourager une approche souple par les comités de spécialité pour assurer que tous les stages, y compris ceux dans des milieux non traditionnels, ont un minimum d'objectifs pédagogiques. Par exemple, des objectifs pédagogiques basés sur les compétences et des objectifs dotés de méthodes d'évaluation claires peuvent être adaptés à tous les stages en tirant avantage de la capacité des résidents pour l'apprentissage autodirigé, même lorsque ces stages font ressortir les composantes de service.

5) Le Collège royal pourrait, au moyen de ses normes d'agrément et en collaboration avec les organismes de réglementation de la médecine, mieux normaliser ses définitions des heures de travail appropriées, de la supervision appropriée et d'une autonomie graduelle pour les résidents à tous les niveaux de formation, en tenant compte des différences individuelles.

6) En modifiant ses normes d'agrément, le Collège royal peut mieux assurer l'orientation et l'acclimatation des jeunes médecins en formation à leurs rôles d'apprenants et de fournisseurs de services de santé, et plus particulièrement pendant la transition initiale vers la résidence.

7) Le Collège royal devrait collaborer avec les programmes de formation des résidents, les hôpitaux et les ordres des médecins pour optimiser l'environnement d'apprentissage clinique et réconcilier la valeur implicite des soins cliniques avec la demande d'efficacité de la formation. Les activités qui ont peu de valeur pédagogique devraient être détectées et déléguées à d'autres membres du personnel ayant la formation appropriée, le cas échéant.

The Resident's Dual Role as Learner and Service Provider

Introduction

In considering the future of the postgraduate medical education in Canada, it is imperative to address the roles of residents. There is a worker-learner duality that arises from the perception of residents as either workers, when they engage in patient care, or learners, when they participate in formal educational activities. Residents sometimes see service and education as opposing concepts, service being mundane and necessary only to deliver care, while education is viewed as formal education, or those patient care activities that are clearly aligned with resident's purpose as learners. Faculty members and educators on the other hand, may have a different perception, viewing education in residency programs as occurring in the context of service.

Patient care is an important medium through which residents learn and it forms a critical part of residency education. Residents are "professionals-in-training" and part of their professionalization is learning the value of providing service to others. Not only is this a social value in itself, but it is felt to be a process of enculturation into the professional role.

As such, it is difficult to separate out educational activity from service to patients and more challenging still to define service or education explicitly in residency training. Since the relative educational value of an activity may change based on one's perspective, the situation, or over the course of residency (what may be considered primarily an educational activity for a PGY1, may be considered primarily service for a PGY4), the relationship between education and service remains dynamic. Overall, the relative balance has shifted more explicitly towards education, as the role of the resident has evolved over time.

Striking an optimal balance between education and service in residency would ensure that learners are well-trained, competent physicians, capable of autonomous, reflective practice upon graduation. There are multiple factors that impact on this balance, not least of which is the relationship between hospitals that rely on residents to provide patient care and universities that oversee learning and assess whether the residents are meeting their objectives of training.
To further complicate the matter, the role of the resident also varies dramatically by both specialty and site. Residency programs must grapple with the challenges of ensuring that

residents have realistic work expectations when they begin practice while adhering to regulations and societal expectations of reduced work hours to ensure patient safety and resident wellness. With the changes to work hour regulations being hotly debated, there is a new challenge for residents and educators to maximize the educational efficiency of residency training so as not to automatically lengthen training in order to make up for the reduction in work hours. There will be challenges to both patient care, as well as formal education, which will require changes in the curriculum and design of residency education.

While the drivers for the change in work hours and the repercussions of this change go far beyond education, given the mandate of the Royal College, this paper will focus on the educational impact. The fundamental values that underpin this paper include:

- The provision of care is a fundamental and integral component of postgraduate medical education. Active involvement in the care of patients is essential to the development of clinical skills.
- Education and patient care are not two concepts in opposition, but rather patient care is an integral part of learning. Being a member of the care team and providing care are key parts of learning.
- No patient contact is without some form of education or learning experience. The challenge is how to ensure that the experience of patient care is seen as an educational experience.
- Supervision is an integral part of the learning experience and should evolve over the course of residency to meet the needs of the learner.
- While the educational aspects of residency training are the focus of the Royal College, there is a need to recognize that residents are also relied on to provide patient care and any changes or recommendations to the status quo should have a manageable impact on patient care.

Background/Current status in Canada

Though medical education is a continuum [See Continuum of Medical Education white paper], residency is a phase that has a beginning and an end. As Residents evolve over the course of their training, so too should the nature of their education as well as the service expectations placed upon them. While the initial meaning of 'resident' harkens back to the days when trainees literally resided in hospitals, the name resident has endured and in Canada, it refers to trainees who have completed medical school and are registered in a

university-based medical training program. Residents are both learners and employees who provide patient care and are relied on to be part of the care team. While residency training should be an educational model first and foremost, there is a need to balance the role of the resident as an employee with the learning that needs to take place. Therefore, regardless of the ideal method for educating, the current healthcare system is highly reliant on residents doing work. Any recommendations to alter the balance between education and patient care must acknowledge this reality and may require a phased-in approach.

The institutions in which residency training programs exist have a significant impact on defining what residents do and should do during training. The institutional role goes beyond just a responsibility for training; and in Canada, where PGME is under the auspices of universities, the location of residency training highlights the value that is placed on education. While there are many advantages to this arrangement, it fosters the expectation of a homogenized, highly educationally weighted experience in each rotation, which can be difficult to attain.

The context of the change in work hours is integral to the discussion about the residents' role as a learner and service provider. If the current model for residency training is not altered, education in residency training may suffer as Canada restricts duty hours like other jurisdictions already have. Although duty hours vary across the country, the trend towards shorter shifts – and therefore less time spent delivering patient care and/or on educational activities means that there is a strong impetus to ensure that residents are able to capitalize on the educational value of patient care. There is a need to change both the educational and service models in residency to better reflect the value of each.

Not all patient care activities that residents engage in are perceived by them as having educational value. While this can be the result of an attitude towards patient care, at times it can also be attributed to the educational experience of residents being hampered by the lack of doctors and other health care professionals in hospitals, which results in residents performing tasks that have little perceived educational value. Furthermore, there are examples when patient care can be thought of primarily as providing an opportunity for residents to learn, such when a staff surgeon, chief resident or senior resident could perform an operation faster and possibly with less tissue trauma than a surgical PGY1, but will supervise and assess while the PGY1 performs the operation for the sake of learning. On the other hand, there are times when patient care is primarily work, for example when a

chief resident on the surgical service checks patients' labs and corrects electrolyte imbalances, as there is little learning in this process for a resident at this level.

However, if learning by doing is an integral part of residency education, then a shift in attitude, which recognizes the value of patient care and the opportunity for learning available during every patient interaction will be necessary. An emphasis not only how residents learn in practice, but how this can be applied after graduation, is also required, as learning through active involvement in patient care is integral to continuing professional development.

Drivers for Change

One of the biggest drivers for re-examining the balance of education and patient care is the effort to reduce duty hours to match what society considers reasonable working hours in other domains (outside of medicine) and to improve patient safety. The Institute of Medicine's (IOM's) 2008 report "Resident Duty Hours: Enhancing Sleep, Supervision and Safety" as well as the subsequent recommendations on duty hours from the Accreditation Council of Graduate Medical Education (ACGME), have resulted in restricted work hours for residents (limited to 80 hours a week averaged over four weeks) in the US.[1,2] Duty hours have already been lowered in many jurisdictions such as in Europe, UK and the US.[1,2] Length of training is longer in European jurisdictions with reduced duty hours, but not in the US and Canada. In addition, intake requirements for medical schools in North America commonly require undergraduate training, resulting in older learners in the system who are resistant to an increased length of training in residency.

In Canada the situation is complex, as negotiations are on a province-by-province basis. For example, the Professional Association of Residents of BC has negotiated a contract that limits shift length to 24-hours and,[3] while in Quebec residents launched a grievance against 24 hour shifts as a violation of human rights,[4] resulting in a 16-hour limit on shifts. Not only do the introduction of restricted work hours impact on education and service, but resident wellness, including mental health and work-life balance also forms an important part of this discussion.

Negotiated decreases in on-call requirements in Canada have decreased the time available for training. Programs have not increased length of training to accommodate, despite the

increased workload of caring for sicker patients and the additional learning required as medical knowledge content continues to expand. Many graduates currently go on to complete fellowships, after residency, presumably to gain confidence and/or competence for practice (in 2009-2010 academic year there were 2,425 clinical fellowships across Canada).[5] Methods to offset the workload of patient care and to improve the delivery of postgraduate medical education (PGME) to ensure that graduates attain competency at the end of training include physician extenders and possibly competency-based medical education (CBME). [See Competency-Based Medical Education white paper]. Ultimately there is a need to ensure that residents are well-trained, competent physicians at the end of their residency, even if there is less time in clinical settings as a result of duty hour regulations. If the system doesn't change in response to duty hours, there is a risk that residents will not achieve the desired competencies in the current training times.

From a professional standpoint, patient care during residency is often ethically dominant and subjugates the learning role, requiring learners to fit their educational needs into their patient care duties. Medical learners have empowered themselves to influence their dual role by developing professional organizations that are able to negotiate for the rights of residents as service providers, including the unique educational needs that must be met in the process of service provision. This model can also cause some conflict with learners' roles as professionals. Although changing, many faculty members who teach PGME have little or no formal training in educational principles, working conditions, gender mix and demographics in the residency program, resident work-life balance and how they affect the delivery of PGME, the development of professionalism and the preparation of residents to work as doctors in the health care system.

Graded responsibility for patient care is a cornerstone of current PGME definition, but its implementation may not be congruous with good educational principles, including CBME. Junior learners perform simple, mundane tasks where repetition may have little educational benefit since they are not often observed and evaluated. They "put in their time" until they are senior enough to be rewarded with the more complex, relevant, engaging patient care duties coupled with ready access to or observation of a supervisor. Junior learners who are inexperienced and more susceptible to errors secondary to fatigue can pose patient safety issues if they are not properly supervised.[6] In addition there is a lack of flexibility in that learners are unable to move through residency at a pace that matches their abilities. Given that the selection processes for medical school and residency are rigorous, most candidates

are able to attain the skills taught in residency quickly, however currently the system does not allow for much flexibility to tailor residency training to the educational needs of the resident.

Finally, another impetus for reconsidering residency training and in particular, the resident's dual role is the need to support residents in looking after their own health and wellness. Specifically, wellness is often not well-addressed or role modeled during residency training. Residents have a unique set of wellness needs and challenges, particularly because they do not have the same control over their own schedule as a practicing physician. This can limit their ability to take control of their own health and wellness. While there is a connection between work hours and resident health, other issues such as emotional support and debriefing are also important and are often overlooked. Residents can be faced with the loss of a patient or stressful care situations, which can take an emotional toll on trainees and there is currently very little support for this aspect of medical training.

Possible Solutions

An organized approach will be required when solving some of the current educational challenges, in particular some of those issues addressed earlier and incorporating innovations to improve postgraduate medical education (PGME).

The work-education balance may be best addressed with a discussion regarding what constitutes work and what is more in the domain of education (although, as mentioned earlier, a clear cut delineation between the two concepts is unlikely to be forthcoming as they remain intertwined during residency). Some patient care tasks require little repetition to master or do not greatly improve a learner's understanding of the practice of medicine but may constitute a reasonable part of a learner's duties in providing patient care. The balance of work and education in PGME can be tipped in favour of education by providing physician extenders like phlebotomists, EKG technicians, and laboratory technicians who perform some of these more routine tasks. Operating room assistants, wound care nurses and nurse practitioners whose domains of competence overlap those of the junior trainees can also help deliver patient care and free the learner to spend more time devoted to those educationally-rich activities. The addition of these professionals could also enhance PGME by providing training, direct observation, feedback and assessment, especially for junior learners. Widespread adoption of physician extenders (as in the US) may shift the spectrum of patient care that physicians currently provide (effectively narrowing the

professional domain) so that junior trainees become responsible for more complex care and so that they will have less volume of work overall.

Programs must explore how they use different principles like apprenticeship and CBME to deliver PGME. Some parts of PGME may become more efficient in a CBME system where learners move on to another competency after demonstrating competence in a specific area of practice [See the Competency-based Medical Education white paper]. In addition, there should be an emphasis on learners "owning" their education to a greater extent, by becoming better CanMEDS scholars and paying attention to principles of adult education and lifelong learning. Learners who do so can tailor their educational experience and maximize efficiency. Training faculty to become better teachers and educators will also improve the learning and help address duty hour restrictions. Faculty development has a key role to play in ensuring that the resident's needs as a learner are met throughout the course of residency training. To address some of the resident wellness issues, faculty development focused on emotional debriefing with residents should be considered as a part of faculty training. This will continue to serve residents well as they move into practice and continuing professional development activities.

In order to optimally train resident, PGME must organize residency training around the transitions that learners face as they enter residency and graduate into practice, providing graded education and responsibility along the way. [See Continuum of Medical Education white paper]. Junior learners may require more attention, supervision and direction but must slowly gain autonomy in their learning and patient care patient roles until they achieve full competence as independent practitioners. This process will require flexibility in training and a need to ensure that supervision changes appropriately over the course of residency. While senior residents may not require the same level of supervision as junior trainees for routine procedures, there are important skills such as crisis management that are learned at the senior level and require supervision in some form. There is also a need to consider graded educational autonomy as residents progress through their training. Junior and senior learners are different in their educational and physiological needs (this is a key aspect of the Accreditation Council for Graduate Medical Education (ACGME) report), but at all levels there is an important role for supervision.

Barriers to Change

Postgraduate medical education (PGME) governance in Canada is highly complex involving medical schools, the hospital system, medical regulatory authorities, ministries of health (as payers) as well as ministries of education, certifying college's and the faculty who are also independent practitioners. This may lead to a situation of competing interests and expectations. Considering the complexity of the PGME system, a set of solutions that recognize this complexity will likely be required to address the tensions in the dual role of the resident.

Traditional learning structures and policies have been built over many years on the assumptions that residents will be present in certain hospitals and will provide a relatively predictable amount of patient care. Improvements in working and education conditions have been the result of negotiations by resident associations. This has resulted in some of the traditional roles required of residents (particularly mundane tasks) being delegated to other members of the health care team. This progress occurs at variable speeds in different environments and with the advent of distributed medical education, it will be important to consider how residents can be supported in hospital settings where they are coming in as a new part of the health care team.

While on the one hand there appears to be a desire not to lengthen training, there is at times also a resistance to changing the standard or traditional training models and paradigms. This tension will need to be addressed if duty hours become a reality, creating the need to find increased efficiency with respect to education during residency. To date, training programs have assumed that the standard five years is required for the education of trainees and may be resistant to identifying new standards and methods and identifying the truly essential elements that are required for all entry-to-practice level physicians. Given that there is general appreciation of the high quality practitioners produced by the Canadian medical education system, this may result in increased resistance to changing training models, as people invoke the “if it is not broken don’t fix it” adage.

The fact that residents provide care for patients and take on increasing responsibilities throughout their training is recognized as an excellent training model that helps prepare future physicians for the reality of practice. The practical aspect of being able to deliver care while supervised allows for safely addressing variation in patients’ medical presentations and treatments. Creating an environment that is reflective of a resident’s future practice

remains an important part of residency education and something that will need to be carefully considered in the debate around duty hours. Specialist physicians trained in environments that do not reflect the realities of community-based practice can be limited in their ability to practice outside of academic health science centres and thus risk not meeting societal health needs. [See Addressing Societal Health Needs white paper & Diversified Learning Contexts white paper]. Ensuring that residents will be well equipped to practice in a variety of settings and have realistic expectations around work hours once they have graduated remains a challenge that will require further debate and discussion.

Potential Benefits

While a discussion of the resident's dual role often highlights some of the inherent tensions and challenges, it is also important to acknowledge the advantages of this role and the many opportunities to improve training, learning and the residency experience. Recognition that residents must assume a dual role of service provider and learner will maintain the current construct of health care provision in medical education, while challenging medical educators to look for outdated modes of training and ask whether there are better alternatives. The likely reduction in work hours combined with the desire not to lengthen training should encourage residency programs to look for increased efficiency in the PGME system and promote the concept of residents becoming 'expert learners', thereby facilitating the transition from residency into practice. Furthermore, increased efficiency in PGME will enable residency programs to maintain or shorten the current length of training, which has the potential to increase the production of health care workers for the system.

Although the principles of graded responsibility are embedded in residency curriculums, the concept of graded supervision has not been given comparable attention. Directing more energy to clearly defining and implementing graded supervision will help ensure that trainees are given the opportunity to practice with reducing supervision so that on completion of their program they are prepared to practice independently. This will also ensure that residents have explored how to identify the limits of their competence and know when to seek help and how to further investigate areas of challenge. Promoting appropriate supervision at all levels of residency training will help improve the educational value of residency and promote patient safety.

Finally, while there are mundane tasks that all physicians must carry out, perhaps these should be looked at as challenges to determine how, as practitioners, we can learn from

every patient encounter and how we can constantly address quality improvement, starting in residency and continuing over the course of our professional careers.

Recommendations

1) Recognizing that issues of service vs. education workload are, to a large extent, specialty specific, that the Royal College support individual specialty committees in finding practical ways to meet their Objectives of Training within increasingly restricted work hours.

2) That the primary response to restrictions in duty hours not be the lengthening of training. Overall training should be based on achieving competencies set out by the Specialty Committees in their objectives of training document. Alternative methods to adapt to duty hour restrictions should be considered, using strategies such as:
    a. The use of physician extenders should be encouraged so that residents can spend more time learning the skills most relevant to their practice
    b. There should be more clarity with respect to the different phases of residency training in order to improve the efficiency of training and maximize the educational value of residency.
    c. The use of competency-based education, milestones and more in-training assessment should be facilitated in residency training.
    d. Encourage the use of simulation during residency training.

3) That, in the light of increasing restrictions on duty hours, the Royal College re-examine its accreditation standards to ensure flexibility in the means of meeting the required objectives set by the Specialty Committees.

4) Residency programs may be designed so that the resident's experience is variably weighted towards service activities or educational activities over the course of training, but the overall program must meet the educational objectives of the Specialty Committee. In situations where there may be questions regarding the service to education balance, the Royal College should facilitate a flexible approach by Specialty Committees in ensuring that all rotations, including those in non-traditional settings, have minimum educational goals. For instance, competency-based educational goals and objectives with clear methods of assessment can be

tailored to all rotations, taking advantage of the resident's capacity for self-directed learning, even when those rotations that primarily stress the service component.

5) That, the Royal College through its standards of accreditation and in collaboration with Medical Regulatory Authorities, better standardize definitions of appropriate working hours, appropriate supervision and graded independence for residents at all levels of training, taking into account individual variability. Mechanisms to be considered might include the following:
    a. Consideration should be given to the timing when responsibility should be increased during residency.
    b. Graded supervision should be emphasized with a focus on the changing nature of supervision as a resident progresses from a junior to a senior role. The level of supervision should not be dependent on the time of day.
    c. Implementing a buddy system for junior residents at night, in order to ensure that they have periods sleep as a way to improve patient safety and respond to the needs of the junior trainee.
    d. Encouraging a decreased service load on junior learners, as this is when they are most prone to making mistakes.

6) That the Royal College, by modifying its standards of accreditation, better ensure the orientation and acclimatization of junior trainees to their roles as learner and service provider, particularly during the initial transition into residency.

7) That the Royal College work with residency training programs, hospitals and Medical Regulatory Authorities to optimize the clinical learning environment, reconciling the implicit value of clinical care with the demand for efficiency in training. Activities of little educational value should be identified, and as appropriate, delegated to other appropriately trained staff.

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