Role of Educational Institutions in Identifying and Responding to Emerging Health Human Resources Needs

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ABSTRACT

The healthcare system continues to evolve, requiring innovation to promote patient-centred, fiscally responsible healthcare delivery. This evolution includes changes to the skills and competencies required of the health human resources (HHR), both regulated and unregulated, who are central supports to healthcare delivery. This has become a priority agenda item at the international, national, provincial, regional and local levels. This paper describes the system factors that drive the emergence of HHR skill and competency needs, and explores the roles of various institutions in the identification of and response to HHR needs. Educational institutions play an important role in responding to emerging HHR needs. Their actual response to HHR skill and competency needs will ultimately depend on the risk posed to the organizations of either addressing, or not addressing, these needs. These decisions are complex and are

*balanced against strategic, operational and educational risks, benefits and realities
within each given educational institution. Educational institutions – through their
linkages with the workplace, industry, professional organizations and government
– have a unique view and understanding of many facets of the complexity of HHR
planning. This paper proposes that educational institutions play a pivotal role as
levers in a more coordinated response to emerging HHR needs and, as such, should
be intimately involved in comprehensive HHR planning.*

THE HEALTHCARE SYSTEM in Canada continues to evolve and requires innovation to promote patient-centred, fiscally responsible healthcare delivery. This evolution includes changes to the skills and competencies required of the health human resources (HHR), both regulated and unregulated, who are central supports to healthcare delivery. Planning for emerging HHR needs is discussed in detail in the literature from the perspective of the population-level health needs; this can be based upon national priorities and local and regional healthcare needs, which can be further delineated based upon the demographics of a population or the special healthcare issues within a given population. Many institutions – including governmental and state institutions, professional organizations and educational institutions – are involved in assessing, projecting and responding to HHR needs. As described in the HHR model discussed by Tomblin Murphy (2005), coordinated and comprehensive HHR modelling and forecasting is exceptionally complex. Nevertheless, this has become a priority agenda item at the international, national, provincial, regional and local levels.

While we can investigate the factors that drive HHR needs through a technocratic and data-driven methodology focused on population health needs, the educational sector's perspective of HHR needs focuses more on addressing gaps in skills and competencies required by healthcare practitioners. Indeed, the role of educational institutions has been noted as a fundamental lever in responding to HHR needs; however, as O'Brien-Pallas et al. (2001) note, this role has not been well explored in the literature.

This paper describes the role of educational institutions in identifying and responding to HHR needs, with a focus on the process for addressing gaps in skills and competencies for HHR. The role and, more specifically, the perspective of educational institutions on the needs of the emerging HHR landscape are unique and important. As discussed later in this paper, instead of focusing on a discrete description of who to include in a definition of HHR, educational institutions focus on skill and competency needs; this tends toward a more holistic view of health and, hence, healthcare providers, facilitating a broader scope of responses to evolving HHR needs. The system factors that drive the emergence of HHR skill and competency needs are described, and the roles of various institutions in the identification of and response to HHR needs are explored. This analysis leads to a discussion on the processes that educational institutions employ to assess their role in the responding to HHR needs, and the various responses that educational institutions can provide to the emerging need for skills and competencies for healthcare practitioners. In conclusion, this paper proposes that educational institutions play an important role as levers in response to emerging HHR needs and, as such, should be intimately involved in the decision-making process with regard to HHR planning.

System Factors Driving the Emergence of HHR Needs

From the perspective of educational institutions, five systems factors drive the development of emerging skill or competency needs for healthcare practitioners: (1) scientific and technological developments, (2) public interest and needs, (3) population demographics and needs, (4) national and international healthcare trends and (5) the evolving HHR climate. Each system factor is discussed based on what the factor entails and how educational institutions can understand it as an emergent need.

Scientific and Technological Developments

Developments within pure and applied research as well as within the technology sector drive the emergence of new modalities for healthcare diagnoses and treatments. Concurrent with these discoveries is a requirement for existing health practitioners to understand these developments and practise them safely and effectively. This expansion of the body of knowledge within the healthcare professions has the potential to inflate the credentials required to attain professional status. Educational institutions, through their linkages with their alumni, clinical partners, industry partners and the broader healthcare system, can identify these developments early on and evaluate responses to the emergent needs. In some cases, the integration of new technological developments into educational programming provides the starting point for incorporation into routine practice.

Public Interests and Needs

As the users of the system, the public's knowledge base of healthcare issues and trends continues to increase. Expectations by the public of a more patient-centred system at the macro level and access to the best medical technologies and healthcare at a micro level continue to drive the demand for new and innovative approaches to healthcare delivery. These forces, when interpreted by the stewards, planners and administrators of the healthcare system, have the potential to drive public policy. In response to these needs, the skills, scopes of practice and competencies required by health practitioners may evolve. Through relationships with governmental, state and professional organizations and a capacity for identifying and assessing public healthcare priorities as described by policy and media coverage, educational institutions have the capability to identify skill and competency gaps in the healthcare system.

Population Demographics and Needs

Broader than the needs of individuals, the needs of a given population based on its demographic or health profile hold the potential to delineate the services required within a given geographical region, and therefore the mix of health practitioners that are required to provide those services. Special healthcare needs within a given population at the national, provincial, regional or local level can drive the need for alterations in the composition and scope of practice of current and emerging health practitioners. Engagement with governmental or state institutions that steward and interpret population health data provides an opportunity for educational institutions to identify and assess the educational needs of the HHR who serve a given population.

National and International Healthcare Trends

While the health needs of populations and structures of health systems in particular jurisdictions vary from those at a national or provincial level, the latter may also signal emerging skill and competency needs for health practitioners. Many of these developments focus on increasing the efficiency,

efficacy and safety of healthcare. Institutional knowledge and a strong aptitude for identifying external trends by way of scanning, researching and networking allow educational institutions to identify opportunities for broadening scopes of practice in response to these drivers.

Evolving HHR Climate

Any or all of these factors, in addition to the actual demographic, working conditions and professional practice patterns of existing health practitioners, have the potential to alter and evolve the HHR landscape. For example, the emergence of professional role extenders, through which the scope of current health professional's knowledge base seeks to be broadened, requires responsive educational solutions that are complementary to initiatives seeking to broaden the accessible pool of existing mainstream health professions. The extension of technical knowledge and skill is only one facet of this evolution. The response of role extenders to an expanded profession-specific body of knowledge is one response to this identified evolution. The issue of how to address the skill and competency gaps of professionals in current practice in an evolving profession requires other responses.

Other skill requirements may also evolve in coordination with national health policy priorities. Some topical examples are the integration of inter-professional collaboration principles into healthcare practice and the need for managerial and leadership competencies. Finally, changing requirements within the healthcare system, as was the case during the outbreak of severe acute respiratory system (SARS) in Canada in 2003, demonstrate the need for a variety of new skills and competencies and, hence, educational responses to these needs (Government of Canada 2003). The success with which educational institutions can link to the broader state, healthcare sector

and professional organizations that may advocate for changes to the body of knowledge within a given profession, or the development of an entirely new profession, determines their ability to respond effectively to these needs by modifying the existing healthcare curriculum.

Summary

The overall effect of any one or combination of these factors is an emerging skill or competency need for both current and new healthcare practitioners. The recognition of these needs and the promotion of their solutions are addressed institutionally. Educational institutions may respond to the requirements emerging from the five system factors by identifying, evaluating and bridging the gaps between the market demand and the educational supply required to support these needs.

This analysis focuses on the processes that institutions use to bridge the identified gaps. The actual response from the educational sector to HHR skill and competency needs will depend ultimately on the perceived organizational risk involved in either addressing or not addressing the needs. Additional factors that may mitigate a response from a particular educational institution include congruence between the evolving educational needs and the mandate of the organization, the institutional capacity to address the evolving need, and the political process involved in deciding on whether the educational institution should respond to a given need. The latter point is further defined by the roles and interplay of the various institutions involved in responding to emerging HHR skill and competency needs, which are further examined below.

Institutional Roles in Identifying and Responding to Emerging HHR Needs

The role of each institution defines how it interacts with and affects the process of identifying and responding to emerging HHR

needs. From a broad perspective, describing the roles of the various institutions, including the government and state institutions, professional organizations and educational institutions, helps us to further appreciate and understand the complexities involved in responding to HHR needs, and frames the discussion of how these institutions assess their own role in this response.

Role of Government and State Institutions

The role of the government in the identification and response to emerging HHR needs depends on the mandate of the government level. Discussions on HHR planning are occurring at the national, provincial, regional and local levels. As noted by Wranik (2008), moving to a broader scope of HHR planning at the national level is challenging due to individual jurisdictional differences. However, HHR planning that begins at the local level suffers from a lack of standardization and information sharing. It appears that productive interplay between various levels of government is required to adequately plan for emerging HHR requirements. Equally important is a clear delineation of the roles of various levels of government and a framework for addressing issues arising from both macro- and micro-level resource planning processes. Again, Wranik (2008) notes that these important linkages between various levels of government in HHR planning requires congruence at the policy, planning and educational levels, all of which are challenging goals to achieve. Even within a single level of government, such provincial governments, which hold jurisdiction over health and education matters, Rowand (2002) notes that a lack of collaboration between ministries could provide barriers to HHR planning as many core issues cut across ministerial boundaries.

In the Canadian context, the role of the provincial government as steward of a publicly funded healthcare and education system requires a balance between the responsibility to ensure the health and safety of the public and a fiscal responsibility and accountability to the public purse. For example, at a macro level, the government and some state institutions have the capacity to facilitate the introduction of new or extended healthcare practitioner roles into mainstream practice. These practitioners could be regulated; in such a case, state institutions such as the Health Professions Regulatory Advisory Council in Ontario could play a pivotal role in the introduction of new practitioners and, therefore, in defining the need for an educational response to emerging skill and competency needs. On the other hand, these practitioners could be unregulated but would still fall under the funding umbrella, to which the government must be held accountable. In both of these cases, there are policy decisions required of the government, which involves both time and political will to make them. Evolving curriculum, expanding educational needs and credential inflation are but some of the elements that can increase the cost of entry into a profession, all of which have implications for the government with respect to its educational funding role.

At a more micro level, individual provincial ministries (usually the ministries of health and education) could direct or consult with educational institutions to address the needs for skills and competencies. True to the technocratic and data-driven HHR planning climate advocated in the literature, a comprehensive assessment of the need for new or expanded healthcare practitioner roles is required to elicit political support for any decision. Quantitative indicators of HHR demand should also consider other factors in addressing HHR needs, many of which are rarely assessed and are usually more difficult to measure (Tomblin Murphy 2005). Efficiency of care is one of the broader motives of governmental intervention

into HHR planning. The literature is scarce on details regarding the governmental decision-making process for the introduction or entry of one new or extended healthcare practitioner role into practice over another, supporting the argument that such HHR decisions are politicized (Hall 2005). In reality, provincial ministries involved in HHR planning serve as de facto gatekeepers for the process through their control over education spending in this realm (Vujicic and Zurn 2006). The inclusion of HHR planning policy directions within broader government policy initiatives further complicates this role and the process to address identified issues, rendering the approach to addressing HHR issues even more complicated (Rowand 2002). Focusing on the specific educational requirement to meet the actual needs of the labour market facilitates alignment between the two spheres.

Finally, governmental or state interventions may occur in the emergence of new skill and competency needs if they support a broader policy direction of the government, such as the development of inter-professional collaboration in practice. In this case, many complex issues arise through the process of integrating a concept into practice, involving both professional organizations and educational institutions. The interests of each must be balanced against the public good (in the case of inter-professional collaboration, this includes efficiency, effectiveness and safety of care provision), and the government's role is clearly more suited to defining policy and providing financial support to drive the intended direction.

The state is not typically involved in subsidizing emerging trends without explicit financial or policy implications for the government. While it is understandable then that HHR planning and decision-making are political in nature due to the form, function and mandates of governmental institutions, Hall (2005)

proposes that systemic changes to state roles and interplay with other institutions can enable a system with greater capacity to respond to emerging HHR needs.

While the above discussion points toward potential responses from *educational institutions* to the emerging need for skills and competencies for HHR evolution, it is also informative to analyze the role of *professional organizations* in this context.

Role of Professional Organizations

Professional organizations that advocate for specific groups of practitioners possess an intimate knowledge of the professions that they represent and are therefore called upon to consult on HHR issues. These organizations can serve two separate roles, depending on the issue at hand and its implications for their constituents. On one hand, professional organizations have the capacity to serve as advocates for an emerging need for skills and competencies, for example, the introduction of new technologies with the potential to become the standard of practice in the field. Advocating for the improved educational preparation of their future members or the amelioration of skills and competencies of their current members serves both the public good and the professional interests of the organization and its members. The extension of current member roles and scopes of practices may also be proposed by the professional organization, again targeting a need for additional skills. In both cases, partnerships with governmental, state and educational institutions to help address the emergent need are of utmost importance for the successful integration of these skills and competencies into mainstream practice.

On the other hand, professional organizations may act as barriers to the development of emergent skills and competencies if the organizations perceive that these developments could

be harmful to the standard of care received by the public, or if the perceived need for a given academic credential, skill or competency does not mirror the actual need within the labour market. While the challenge of aligning credentials with actual skills or competencies, required by the workplace, is beyond the scope of this analysis, it is one aspect that has received a great deal of attention in the literature and is important to bear in mind when assessing an educational response to an emerging HHR need. For example, if some professional organizations are advocating for expanded roles and cross-pollination between scopes of practice, and this is perceived to threaten the specialization of knowledge and skills held by members of another professional organization, conflict might ensue – this complicates and delays an educational response in support of the HHR needs. Furthermore, as noted by Dower (2002), HHR needs supported by population-based data, such as those derived from provider-to-population ratios, can be subject to interpretation. If these data fail to demonstrate a need for increasing the number of practitioners in a given area, professional organizations have the capacity to influence government decision-making by disputing the evidence in favour of growth for their constituency base.

Overall, professional organizations, through their intimate knowledge of the needs of those they represent, have the power to influence the HHR landscape in relation to how these changes affect their members. As such, linkages between professional organizations and educational institutions should be sound to ensure coordinated responses to emerging HHR needs.

Role of Educational Institutions

A wide range of educational institutions exists as defined by their scope, institutional and governance arrangements, legal status and accountability arrangements to funding institutions. From the private career college to the graduate-level university, each educational institution has the potential to respond to the emergent market need for HHR skills and competencies. As noted by Dower et al. (2001), educational institutions in the context of emerging HHR practitioners have three main objectives: to act as resource pipelines to the professions, to develop the research capacity of the profession and to facilitate and leverage the evolution of the profession and the healthcare sector. The key to realizing these goals is active engagement between educational institutions, professional organizations, the labour market, the government and other stakeholders in the healthcare sector. This engagement may be initiated from a source outside the educational institutions, providing a reactive opportunity for the organizations to fulfill an emerging need; however, in this paper, we argue for a greater *proactivity* on the part of educational institutions in the HHR planning cycle.

Engagement between members of an educational institution with external institutions and the broader healthcare environment can facilitate the identification of educational opportunities and responses in a constructive manner. Engagement can occur for various individuals within an organization as a necessary component of their daily activities. For example, faculty, through their linkages with clinical partners, afford a current view of the healthcare workplace. Linkages can also be pursued explicitly with the aim of furthering the strategic direction of the organization. For example, members of an educational institution's governing body may seek to establish and promote relationships with external stakeholders from institutions that are involved in HHR planning to inform decision-making

on both sides of the conversation. Finally, an organizational culture that values a capacity for continual scanning of the HHR landscape for new opportunities may empower staff members at all levels of the organization to engage individuals in discussions regarding new strategic opportunities that may not otherwise have been observed or pursued.

While the above discussions of roles of governmental and state institutions and of professional organizations are not comprehensive, it is clear that educational institutions need to build relationships with these groups to inform their options and role in responding to emergent HHR skill and competency needs. As stated previously, the chosen direction of an educational institution could result from a directive, consultative or iterative/collaborative process involving one or more of the institutions described above. The range of potential responses available to educational institutions are described in detail in the final section of this paper and range from *no educational response* to f*ull program response.* At this point, suffice it to state that in any comprehensive HHR planning model, educational institutions play a pivotal role in addressing needs, regardless of whether the result is the introduction of a new healthcare occupation or the further development or introduction of a skill and competency set. Educational institutions employ an important and unique lens to understanding emerging HHR needs. They reflect upon and have the capacity to address skill or competency needs at an individual level or in groups, as in the case of full academic programs. An understanding of the specific HHR needs from the perspective of skills and competencies drives toward the range of potential responses from educational institutions. Prior to fully discussing these various responses, it is important to understand the assessment process educa-tional institutions may employ in determining their response.

Assessment of Organizational Role in Responding to Emerging HHR Needs

The choice of providing new educational programming is a fundamental strategic lever in the development and evolution of an educational institution. These decisions are complex and must be balanced against strategic, operational and educational risks, benefits and realities within a given educational institution. While each educational institution may have its own internal policies, processes, documents and tools to assess its role in responding to emerging HHR needs, the ability to remain responsive is paramount. The risk assessment methodology outlined here describes a complex process of internal decision-making that is guided by facilitated and focused conversation with various individuals and institutions of interest around a specific and emerging HHR need. This methodology proceeds via three stages: identifying the need, assessing the risk and executing the response.

Identifying and Understanding HHR Needs

An educational institution may become aware of an emerging HHR need from any one, or combination of the following sources:

- Data-driven research activities
- Information provided by healthcare practitioners
- Linkages, networks and institutional knowledge
- Directed response to a need

The identification of an emerging HHR need is an essential step in framing discussions and decisions. This stage serves to identify and clarify the HHR need through reflection on the questions below, some of which

may not apply while others will be of utmost importance, depending on the opportunity:

- Why does the healthcare system need this new skill, competency or practitioner?
- What is the purpose and unique contribution of the emergent practitioner or skill and competency to the healthcare system?
- What are the skills and competencies required?
- What system drivers have contributed to the emergence of this HHR need?
- Who are the stakeholders that may be involved in or affected by this emergent HHR need?
- Who are the individuals of interest who may be engaged to further inform decision-making?
- Upon what knowledge base is the contribution of this practitioner built?

This contemplation is the first step in assessing the potential risk to an organization of undertaking a new educational programming opportunity. From this set of preliminary questions, it may become apparent, even with a cursory investigation, that the educational opportunity fits a certain response from the institution. However, decision-making should take place after reflection on the risk posed to the educational institution of one response over another. A more important outcome of this stage is to identify stakeholders and individuals of interest who can further inform the risk assessment stage of the process.

Educational Institution Risk Assessment

The assessment of risk builds upon the information gathered during the identification phase. Regardless of whether an institution uses a specific tool to document this risk assessment, the outcome is an understanding of the opportunity and its potential positive and negative impacts on the educational institution. Engagement of key stakeholders and individuals of interest in this stage not only serves to best inform decision-making within the institution, it also garners appropriate support for any potential opportunities that the educational institution may choose to pursue.

As with the identification phase, a list of criteria can be used to focus the risk assessment phase. A detailed account of questions to be addressed when profiling emerging health professions is provided by Dower et al. (2001). The criteria presented in Table 1 roll these questions into three categories: operational, educational and strategic factors.

Depending on the actual needs established during the identification phase of the process, certain of the criteria presented in Table 1 will have greater relevance and weight in the decision-making process. The information gained from the risk assessment will point to one of four potential options (A–D) described below. It is important to note that all the factors described are affected to some degree by external factors that are not purely under the control of the educational institution itself. For example, credentialing, accreditiation and market needs are important external factors that can mitigate any potential educational response.

Educational Response to Emerging HHR Needs

Based on the assessment of organizational risk, an educational institution evaluating an emerging HHR skill and competency need may pursue one of four possible responses: no educational response, a full educational program response, a continuing professional education response or a response contingent on unresolved external factors. Each response raises different issues for the institution.

Option A: No Educational Response

The simplest response is no response at all, which an institution may choose for a variety of

reasons. One reason may be that the needs are not apparent to the educational institution, and therefore the opportunity cannot be adequately assessed. Active linkages with institutions involved in HHR planning might partially address the lack of knowledge about the emerging opportunity; a lack of such linkages places the educational institution in a reactive role in the HHR planning cycle. Educational institutions, by virtue of their mandate and mission, should seek to actively network with external institutions at all levels of the organization to assume a more proactive role.

Table 1. Criteria for consideration to focus the risk assessment stage

Operational Factors
External clinical education capacity
Internal operational capacity
Physical requirements for addressing the HHR need
Capital requirements for addressing the HHR need
Educational funding capacity

Educational Factors
Credentialing requirement for the practitioner
Program accreditation requirement
Educational quality requirements and opportunities
Student demographic profile
Market need (i.e., new skill, skill set, competency or set of competencies)

Strategic Factors
Institution's reputation and congruence between opportunity and institution's mandate and mission
Public relations
Political issues
Legal issues
Employability of skills and competencies in market
Educational competition in the market

HHR = health human resources.

Additionally, there is a risk, as HHR opportunities present themselves within the healthcare market, that institutions interested in assessing their response to an emerging need might not be aware of who to engage regarding the educational requirements. Educational institutions should be engaged early on as active partners in the evolution of needs, regardless of the initial drivers of HHR educational requirements.

Finally, structural barriers may prevent an educational institution from responding to an HHR need. For example, credentialism or a misalignment between the educational response advocated by the state and/or professional organizations and the actual needs of the market may hinder the ability of a given educational institution to respond.

Option B: Full Educational Program Response
A second possible response to an emergent HHR skill and competency need is the introduction of a new educational program, or the expansion of a current program, to provide a formal academic credential aligned with the requirements expected by practice standards. This outcome requires financial support from public funding agencies; therefore, engagement with the government is necessary. As stated previously, this response could be directive or iterative in nature and may proceed via a request for proposal or a similar collaborative process. The issue that arises with this educational response is that the process for a fully funded educational response cannot be executed quickly as it requires a great deal of planning and documentation from all parties involved. This is understandable; the system would not be finanicially sustainable if educational institutions were haphazardly entering into the publicly funded educational market without a thorough assessment of the financial and political impacts of addressing emerging HHR needs. For this reason, viable opportunities to introduce or expand formal full academic programming are limited to a certain group of educational institutions.

Option C: Continuing Professional Education Response
A third possible response recognizes that often the development of HHR involves incremental adjustments to their educational

needs, driven by changes to the healthcare landscape. For individual or grouped skill and competency development, the educational response offered by a continuing education program presents a responsive option, with a potential for growth and diversification within an educational institution. As continuing education entities are primarily profit centres for educational institutions, an analysis of the profitability of these educational pursuits is paramount. However, issues of program quality can be debatable if profit is the primary driver of the response as it could be argued that single-course offerings do not always possess the same academic rigour as fully accredited academic programs. Currently, there is no formal accrediting body for continuing education courses. Therefore, it is up to the educational institutions to adhere to sound academic planning and approval processes to ensure the quality of content and delivery in these academic offerings. Engagement with actual practitioners who will be accessing the academic programming that is to be offered serves to inform the need, responses and available and marketable pool of candidates.

Option D: Response Contingent on Unresolved External Factors

Finally, an educational institution may find during the identification/understanding and risk assessment phases of the process that sufficient criteria have not yet been met to justify proceeding with an educational response to an emerging HHR need. In this case, the need and opportunity would be understood by the institution; however, some criteria during the risk assessment would need to be further assessed and clarified before the institution could decide upon an appropriate response. For example, as all the factors assessed through the investigation of a potential response to an emerging HHR need are to some degree affected by the external environ-

ment, some of these variables would have to be clarified prior to moving forward. Engagement with the relevant stakeholders and individuals of interest involved in a potential response would have to ensue to move from this response to one of the three more definitive responses described above. The process for arriving at a decision point and moving to a response raises further issues, which are elaborated on in the discussion below.

Discussion

Educational institutions are intimately involved in responding to an emerging need, from the initial identification of the need to the execution of the institutional response. The goals of this paper are to describe the system drivers of this process, to investigate the roles of various institutions in responding to the emerging need and to detail the process and role that educational institutions play in the evolution of and response to these needs. While the imperative role of educational institutions in responding to emerging HHR needs has been acknowledged, the literature has not been well developed on how and why educational institutions engage in addressing emerging HHR educational needs. This paper serves as an introductory discussion of such issues and points toward further research and discussion.

A few conclusions can be drawn from the preceding discussion. It is clear considering the varying roles and mandates of the institutions that are engaged in HHR planning that multiple and sometimes conflicting interests need to be balanced while attempting to address an emerging HHR need. Political issues, territorial and professional advocacy as well as issues of financial accountability all become very real in planning for the evolution of the human resources that form the backbone of the healthcare system. From the perspective of the educational institutions, engagement from the beginning of the process is impera-

tive to achieving successful outcomes and is best served by a consultative and constructivist approach. This is of utmost importance for the educational institution to fully understand the actual skill and competency requirements of the emerging HHR need.

A clear definition of HHR is derived from the foundational definition of the concept of "health." The simple delineation of regulated and non-regulated professionals is only one layer of a potential definition of HHR. Among the non-regulated professionals, the more holistic one's definition of health is, the longer the list of potential HHR becomes. While educational institutions recognize this, the unique lens used by educational institutions focuses on the actual HHR need from the perspective of skills and competencies that are required in the healthcare market. This is a simple yet powerful difference from a view of HHR as distinct practitioners only. This lens supports the potential for any of the four responses described in this paper. While literature exists that discusses HHR challenges and opportunities in some of the larger regulated professions, such as physicians and nurses, including numerous technocratic reports regarding the number of practitioners per capita and the effects thereof, the literature is scarce from the perspective of HHR needs from a more holistic perspective of evolving skill and competency needs. One example is a report published by the government of Canada (2003) discussing the impacts of the SARS experience. Chapter seven of this report focuses on the issues and needs of HHR in public health as learned through the SARS experience in Canada, and concludes that engagement of educational institutions with professional organizations and the state is imperative to prepare the cadre of highly skilled HHR that would be required to address another experience like SARS.

Educational institutions, in addition to serving a production function, are also important partners in the ongoing evolution of HHR needs and have the potential to act as advocates for change in HHR. As noted by Wranik (2008), healthcare providers at the micro levels are best suited to identify emerging HHR needs. With the exception of the actual workplace in which professional skills and competencies are practised, all other institutions noted in this analysis serve as interpreters of the actual labour market need. The linkages between educational institutions, funding institutions and the healthcare system position educational institutions to understand the emerging need from a variety of perspectives, and to respond to the need to achieve the best outcome for the system.

The process described in this paper may seem lengthy and cumbersome. However, not every phase of the process requires formal documentation of responses to each question. In fact, much of the process may take place through focused conversation within an organization at the appropriate level. Educational institutions may not have organizational capacity to scan, evaluate and document all opportunities in this manner. However, the model provided here serves educational institutions with a framework by which to organize their decision-making regarding academic growth and diversification. Through consciously formalizing the process of identifying and responding to emerging HHR needs, educational institutions and those to whom they are linked and accountable have a model for consultation and engagement in the assessment of opportunities to address HHR needs. This model also enables educational institutions to compare one opportunity against another to choose the most lucrative option when resources are constrained.

Financial and quality considerations are usually paramount in any decision regarding HHR needs. Herein lies further support

for the argument for stronger engagement between educational institutions and the government in HHR planning. Programmatic educational responses, either new or expanded, cannot proceed without funding. The exception to the rule is continuing education courses. If funding agencies and educational institutions are not moving forward at the same pace in terms of engagement in the evolution of an emerging HHR need, then the risk for false and sometimes unrealistic expectations for educational outcomes may ensue. Many educational institutions have the capacity to expedite growth in educational offerings through their internal processes for planning and delivery. However, in the absence of a clear understanding of cost and funding implications, it is difficult to plan for the effective expansion of academic programming in a manner that is financially viable, responsible and accountable to the funder. The politics of negotiating these terms is sometimes challenging as the funders and the educational institutions may have different levels of understanding of the educational cost of and capacity for responsiveness to needs, leading to delays in the introduction of programming. Alleviation of these issues can only occur through improved quantity and quality of dialogue between government and the educational institutions, stemming from a common understanding of each other's businesses and needs.

While professional organizations can act as advocates and a voice for an HHR group, any educational response that requires public funding will also require political will and a discussion of the appropriate role of the state in the evolution of the specific health profession. One response that has been employed in some jurisdictions is that of a secretariat within the provincial government that is responsible for a given profession. This was one of the recommendations of the report on SARS and public health, with the intention to oversee the development of the profession to meet anticipated HHR needs (Government of Canada 2003). While this response may be effective in some cases, it is not necessarily congruent with a more holistic view of emerging HHR needs from the educational institution's perspective of skills and competencies.

A second focus of educational institutions in addressing an emerging HHR need is program quality. Academic rigour tied to external standards of practice and competencies and supported by appropriate content and mode of delivery is paramount to effectively address the identified HHR skill and competency gap. These issues are resolved internally; however, they take time. When the response to a need is directive in nature from the government, educational institutions must react to provide an appropriate educational response, while navigating the political realm of the response itself. In this case, efforts on the part of the educational institution to highlight risks to the government can be construed as 'problems' that the educational institution is accountable to address. Moving forward on an emerging HHR need as partners, both government and educational institutions could more effectively collaborate to ensure a thorough understanding of each other's needs and limitations and to craft an educational response that meets the needs of both parties and, more importantly, the original HHR need in a transparent and responsive manner.

Identifying and addressing an evolving HHR need involves a complex mix of interests and institutions. Educational institutions, through their linkages with the workplace, industry, professional organizations and government, have a unique view and understanding of many of the complex facets of HHR planning. Each institution involved in

the process has its own mandate and focus, and these define the parameters within which a response to HHR needs takes place. However, educational institutions in their role as a production function are not set up to allow for timely and collaborative educational responses to emerging HHR needs in the healthcare market. A more active role for the organizations is vital to allow a coordinated response within the broader system.

While this paper seeks to discuss the role of educational institutions in HHR planning, it is not meant to answer all the questions but, rather, to spur further discussion and research on how best the various institutions involved in HHR planning can work together to address emerging needs. Further research is required into the mitigating factors from the identified HHR need through to a response from either the state or an educational institution, with a focus on the actual labour market need throughout the process. This research could be focused on the relationships between the various institutions in a case study approach from a political economy standpoint. Such efforts would clarify the roles of the various institutions involved in the identification of and response to an emerging HHR need.

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