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Original Study

Service-Based Health Human Resources Planning for Older Adults

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A B S T R A C T

Objectives: To test a service-based health human resources (HHR) planning approach for older adults in the context of home and long term care (LTC); to create a practical template/tools for use in various jurisdictions and/or health care settings.
Design: The most serious health needs of seniors in 2 Canadian jurisdictions were identified and linked to the specific services and associated competencies required of health care providers (HCPs) to address those needs. The amounts of each service required were quantified and compared against the capacity of HCPs to perform the services, measured using a self-assessment survey, by using a previously developed analytical framework.
Setting: Home and LTC sectors in Nova Scotia and Nunavut, Canada.
Participants: Regulated and nonregulated HCPs were invited to complete either an online or paper-based competency self-assessment survey.
Results: Survey response rates in Nova Scotia and Nunavut were 11% (160 responses) and 20% (22 responses), respectively. Comparisons of the estimated number of seniors likely to need each service with the number who can be served by the workforces in each jurisdiction indicated that the workforces in both jurisdictions are sufficiently numerous, active, productive, and competent to provide most of the services likely to be required. However, significant gaps were identified in pharmacy services, ongoing client assessment, client/family education and involvement, and client/family functional and social supports.
Conclusion: Service-based HHR planning is feasible for identifying gaps in services required by older adults, and can guide policy makers in planning hiring/recruitment, professional development, and provider education curricula. Implementation will require commitment of policy makers and other stakeholders, as well as ongoing evaluation of its effectiveness. More broadly, the ongoing effectiveness of the approach will depend on workforce planning being conducted in an iterative way, driven by regular reevaluation of population health needs and HHR effectiveness.

Canada's seniors (ie, those 65 and older) currently comprise about 14% of its population, with this number projected to increase to more than 23% by 2030.[1] Even though older adults in Canada are living longer and remaining healthier as they age, the net need for long term care (LTC) is expected to increase.[2] Canada's health workforce is the most powerful, and most expensive,[3] component of its efforts to respond to these needs; hence, managing this resource appropriately is critical.

To respond to the health needs of older adult populations, policy makers must consider the number and type of services that will be required, and the competencies (ie, knowledge, skills, and abilities) required of health care providers (HCPs) to deliver those services. A service-based (this approach was previously referred to as a "competency-based approach" because of the measurement of HCP competencies required to deliver services that meet the health care

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needs of people; however, the term has been changed to "service-based" to better reflect the emphasis of the approach on the health needs of people rather than planning based on the needs of providers) health human resources (HHR) planning approach that directly incorporates each of these factors in measuring HHR requirements and supply and subsequently identifies gaps between the 2 would allow policy makers to plan health care for older adults more effectively. Such an approach is consistent with national calls for inclusive and evidence-based planning tools that allow provinces and territories to learn from each other.[3]

In Canada, recognition stemming from a lack of viable needs-based requirement and supply tools has led to calls for effective HHR planning models.[4] Few HHR models now in use,[5] however, directly consider the health needs of the populations being served, relying instead on demographics as the main determinant of workforce requirements.[6,7] The limitations of such approaches are well recognized[8–14]; briefly, they are founded on assumptions repeatedly shown to be false, for example that the number of providers alone determines the supply of services, that current levels of service provision are (1) optimal and (2) will not change in the future, and that neither the health needs of the population nor the productivity of HHR in delivering services will change in the future. Planning based on these assumptions threatens to perpetuate existing inequalities in access to health care.[15] Organizations that have considered competencies related to health care appear not to have done so within an HHR planning context[16–19]; further, such undertakings are often profession-specific, are devoid of a model to guide their approach,[20] or have not been used widely (eg, at the national level) because of the methodological rigor associated with data requirements.[21]

The objectives of this project were threefold: to identify the most serious health needs of seniors in Nova Scotia and Nunavut; to quantify the services required to meet those needs in the home and LTC sectors; and to determine the capacity of HCPs in these sectors to perform these services. The ultimate goal was to establish a practical template for service-based HHR that can be applied in a variety of jurisdictions and/or health care settings.

Methods

We used a framework for service-based planning.[22] Under this framework, the unit of analysis is the particular health care service that must be performed by an HCP to address some health care need within the population being examined; this contrasts with most HHR planning approaches where the HCP is the unit of analysis. The framework calls for 2 quantities to be estimated: how often a particular service is required by the population in question (requirements), and how often that service can be performed by the available health workforce (supply). Estimating the first requires the identification of the leading health conditions that drive the need for health care, knowledge of the size of the population, and the incidence or prevalence (the use of incidence or prevalence depends on whether the condition being measured is infectious or chronic; for the purpose of the study, prevalence was used, as all conditions measured were chronic in nature) of each leading condition within it, the range of health care services required to address each condition, and the frequency with which each service is required by persons with those conditions. In addition to aligning services with the health needs of the population, consultation and engagement with key stakeholders allows for the consideration of contextual factors affecting this alignment, such as barriers and enablers to accessing services. In this way, planners can explicitly consider issues of access or inequalities in how services are organized and provided without being constrained by existing levels of service provision.

To identify the leading health conditions among the older adult populations of Nova Scotia and Nunavut, the peer-reviewed and gray literature (including relevant clinical practice guidelines, policy and research reports) were appraised and a list of the leading conditions for each jurisdiction was compiled and validated by steering committees made up of clinicians practicing in the LTC and home care sectors, as well as policy makers with background clinical experience working with older adult populations (eg, physicians specializing in gerontology, occupational therapists whose work focuses on older adults) and/or recent involvement in policies and decisions concerning older adults (eg, home and LTC planners from the Departments of Health and Wellness in Nova Scotia and Health and Social Services in Nunavut) in each jurisdiction. The health care services required to address these conditions, and the competencies required to perform them, were identified in a multistep process. First, clinical guidelines (where these existed) were reviewed, informing iterative consultation with practicing clinicians; from this, an initial list of required services was developed. Next, the identified services and associated competencies were validated by the steering committees through a process of discussion and deliberation informed by members' respective areas of expertise; additional steering committee members were invited for additional expertise as required and appropriate.

To estimate the proportion of clients with each identified health condition who would require each service, we consulted with clinical informants from each jurisdiction. These estimates, too, were validated by the steering committees through the same process described previously. With these estimates of need and provision requirements, we then applied the service-based framework[22] to estimate the number of times on a given day each service was likely to be required in each jurisdiction. Briefly, the size of the population was multiplied by the prevalence of each condition to yield an estimated number of older adults requiring care. For each service, this value was then multiplied by the estimated proportion of those who would require that service on a typical day, given that they are ill, yielding the estimated number of times each service would be required on a given day. For instance, this process suggested that approximately 50% of older adults receiving home or LTC in Nova Scotia, and 5% of those in Nunavut, would require a HCP to administer their topical or oral medication(s). Another example is that fewer than 1% of both Nova Scotian and Nunavut residents would require a bone density scan to be ordered on a typical day.

To compare the amount of services required in each jurisdiction with the amount of services that can be provided, estimates of the proportion of that workforce that is competent to perform each service are required. To produce these estimates, a cross-sectional self-assessment questionnaire was developed to measure the prevalence of each of the identified competencies in each jurisdiction. Competencies were grouped under the following domains, which were identified based on review of clinical guidelines and consultation with practicing clinicians: functional, social, cardiovascular, respiratory, mobility/physical rehabilitation, neurological, educational, other diagnostic, medication, nutritional, oral health, interprofessional, and end-of-life care. The questionnaires asked individuals to rate their level of competence using a 5-point Likert scale in relation to the competencies they currently use and/or have previously used.[22] Respondents were also asked to specify the health region/district where they worked, their profession, work setting, level of work activity (eg, hours/week in direct client care), and productivity (clients seen/week). Note that the purpose of these estimates is to identify the number/amount of services that providers are *able* to provide and not merely the package of services that they currently provide.

In Nova Scotia, staff of the Victorian Order of Nurses (VON) and 6 LTC facilities across the province were invited to complete the