ORIGINAL ARTICLE

Defining rural teaching hospitals in Canada: Developing and testing a new definition

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Abstract

Introduction: The current definition of 'teaching hospital' provided by Canadian Institute of Health Information (CIHI) focuses on large academic teaching hospitals. High-quality rural training experiences have been identified as a key component of training the future rural medical workforce. Identifying communities and hospitals where this training is currently available and taking place is important in understanding the current landscape of available rural training but is hampered by the lack of an agreed upon definition of 'rural teaching hospital'. This limits the understanding of current rural training landscapes, comparison across regions and research in this area. We propose a definition of a 'rural teaching hospital'.

Methods: Using the CIHI definition of rural as an initial reference point, we used accessible data from the University of Calgary and University of Alberta Distributed Medical Education (DME) programs to develop a definition of a 'rural teaching hospital'. We then identified rural Alberta hospitals to show how this definition would work in practice.

Results: Our definition of a rural teaching hospital is a hospital situated in a town of <30,000 people, teaching occurs at least 36 h a week and that teaching includes at least Family Medicine clerkship OR Family Medicine residency rotations. We identified 104 Alberta rural hospitals. The University of Calgary and University of Alberta DME programs included 70 communities and 44 of these communities met all three proposed criteria for rural teaching hospitals.

Conclusion: Creating a working definition of a 'rural teaching hospital' is of high importance for both research and for day-to-day operations of rural educational units.

Keywords: Definitions, Distributed Medical Education, medical education, rural hospitals

Résumé

Introduction: La définition du terme « hôpital d'enseignement » selon l'Institut canadien d'information sur la santé (ICIS) désigne surtout les grands hôpitaux universitaires. L'expérience de formation de bonne qualité en milieu rural est un élément essentiel de la formation du futur personnel médical en milieu rural. Il importe de déterminer quels sont les communautés et les hôpitaux où cette formation a lieu

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pour comprendre le contexte actuel de la formation rurale offerte, mais l'on se bute à une définition du terme « hôpital d'enseignement rural » qui ne fait pas consensus. Cela limite la compréhension des contextes actuels de formation en milieu rural, la comparaison entre régions et la recherche sur cette question. Nous proposons donc une définition du terme « hôpital d'enseignement rural ».

Méthodologie: Avec la définition de l'ICIS de l'adjectif rural comme point de départ, nous avons utilisé les données accessibles des programmes d'éducation médicale satellite de l'Université de Calgary et de l'Université de l'Alberta pour formuler une définition du terme « hôpital d'enseignement rural ». Nous avons ensuite identifié les hôpitaux de l'Alberta pour illustrer comment la définition s'insère dans la pratique.

Résultats: Selon nous, un hôpital d'enseignement rural désigne un hôpital situé dans une ville de < 30 000 personnes, l'enseignement y a lieu pendant au moins 36 h par semaine et il inclut au moins un stage en médecine familiale OU des rotations de résidence en médecine familiale. Au total, 104 hôpitaux ruraux de l'Alberta répondaient à cette définition. Les programmes d'éducation médicale satellite de l'Université de Calgary et de l'Université de l'Alberta comptaient 70 communautés et 44 d'entre elles remplissaient les trois critères proposés pour être reconnues avoir un hôpital d'enseignement rural.

Conclusion: Il est très important de formuler une définition de travail du terme « hôpital d'enseignement rural » tant pour la recherche que pour les activités quotidiennes des unités d'éducation en milieu rural.

Mots-clés: Définitions, éducation médicale satellite, éducation médicale, hôpitaux ruraux

INTRODUCTION

High-quality rural training experiences have been identified as a key component for training the future rural medical workforce.[1,2] However, at present, there is no agreed upon definition of a 'rural teaching hospital'. This limits our understanding of the current landscape of rural training and has potential impact in terms of resource allocation, the identification of potential rural sites for capacity building and comparisons across regions. The absence of a working definition of a 'rural teaching hospital' also affects the ability to distinguish these hospitals in data sets and restricts scholarly work seeking to understand the particular characteristics, challenges and successes of medical education in the rural settings.

The Canadian Institute of Health Information (CIHI) defines a teaching hospital in Canada through a data element called the Teaching Status code: 'This data element applies to logical facilities that provide medical education programs approved by the appropriate authorities. These programs must be intended for major clinical instruction in at least the medical disciplines of internal medicine and general surgery to undergraduate medical students in their final 2 years.'[3] However, this definition excludes family-physician-centered rural hospitals with significant teaching roles that support the education of the future rural medical workforce.

In this paper we propose a definition for 'rural teaching hospital' similar in structure to the CIHI definition.[3]

METHODS

We used the existing CIHI definition[3] as an initial reference point in developing our definition. As our overall goal was to produce a definition that could be easily used at any institution, we focused on using data that would be available without specific research and without ethics approval and be similar across jurisdicitons. We applied the definition to Distributed Medical Education (DME) sites associated with the University of Calgary and the University of Alberta. We also describe the key characteristics of hospitals identified or excluded from our working definition, to demonstrate its utility as a classification system.

We focused on type of teaching and amount of teaching, both elements of the CIHI definition, and added location. The amount of teaching and type of teaching chosen were specific to this definition.

Data sources

The data used in this study include population data[4,5] and data about DME sites from Key Performance Indicators (KPIs), reports to government by the office of Distributed Learning and Rural Initiatives at the University of Calgary[6]

and the Office of Rural and Regional Health at the University of Alberta.[7] We focused on the data about teaching load and specialty at rural sites. We chose these data elements because they are particularly relevant to the proposed definition and they are likely to be available in a similar form at all medical schools. More specifically, for each community identified, we used administrative and statistical data[4-7] to determine if the criteria in the proposed definition were met. Type of community was assessed using population demographic data.[4,5] Amount and type of teaching was assessed using KPI data.[6,7]

Choosing the term 'rural teaching hospital

The goal of creating a definition of a rural teaching hospital is to allow easy and consistent identification of rural hospitals significantly involved in teaching. We also recognize that teaching in distributed medical settings is not exclusive to the hospital and also takes place in the community in a variety of settings (e.g., clinics, home visits and long-term care). However, we have chosen to use the term 'rural teaching hospital' rather than the term 'rural teaching community'. Our rationale was the potential for confusion between the terms 'community teaching'[8] as a description of teaching done in the community and 'teaching community'[9] in medical education as a description for a group of physician educators.

RESULTS

The definition we developed has three domains: (i) community size, (ii) amount of teaching and (iii) type of teaching [Table 1].

For community size, the Statistics Canada definition of a rural area (population <1000) or a small population centre (population 1000–29,999) indicates locations on the rural-urban continuum where a rural teaching hospital might be located.[10] We chose not to use the CIHI Definition of Community Small Hospitals[11] which is based on case load as this could include small urban and suburban hospitals, while busy rural hospitals may not fit this classification.

Amount of teaching is reflected in the wording of the CIHI teaching hospital's definition as 'logical facilities'.[3] We felt it was important to recognize the importance of the consistent presence of learners in an active teaching hospital. We chose 36 weeks of total teaching per year as a minimum threshold for this domain. The rationale for choosing 36 weeks for smaller hospitals stemmed from consideration that some hospitals may not choose to take learners during periods of increased locum coverage, such as summer months or winter holiday period. Thirty-six weeks, or 9 teaching blocks of 4 weeks, would represent consistent teaching across time, except during blocks with increased locum coverage. Although the CIHI definition specifies learners at the undergraduate medical education (UME), we felt that distinction between UME and post graduate medical education (PGME) medical learners is artificial and that the 36 weeks of teaching could encompass both UME and PGME learners.

For the third component in our definition, type of teaching, we considered that a rural teaching hospital would at least be training the rural family physicians of the future. Therefore, we included teaching in Family Medicine clerkship or Family Medicine residency in the definition to reflect this.

Applying the definition of a rural teaching hospital

We identified a total of 104 Alberta Hospitals and Health Centres located outside of Calgary

Table 1: Proposed definition of a rural teaching hospital

Proposed element	Element detail
Type of community	Hospital located in a community, meeting the Statistics Canada definition of rural or small population area (population <30,000)
Amount of teaching	Teaching occurs at least 36 weeks/year
Type of teaching	Teaching includes at least Family Medicine clerkship (UME) or Family Medicine residency (PGME) rotations

UME: Undergraduate medical education, PGME: Post graduate medical education

Table 2: Characteristics of rural teaching hospitals in Alberta (*n*=44)

	Average	Low	High
Population	7837	1206	25085
UME teaching weeks	57.8	0	155.6
PGME teaching weeks	57.3	0	229.2
Total teaching weeks	115.1	38	270

UME: Undergraduate medical education, PGME: Post graduate medical education

and Edmonton.[12] The University of Calgary and University of Alberta Distributed Medical Education Programs include 67 communities in Alberta, 2 in the Northwest Territories and 1 in the Yukon. Sixty-two of these communities have a hospital or health centre. For each community we used administrative and statistical data[4-7] to determine if the criteria in the proposed definition were met.

Type of community: 64 of 70 communities had populations <30,000. The 6 communities that did not meet the criterion included 4 heavily used tertiary care regional hospitals.

Amount of teaching: 48 of 70 communities had at least 36 weeks of teaching per year. The 23 excluded communities had an average of 13.4 weeks of teaching: per year with a range of 0.4–32 weeks.

Type of teaching: 61 of 70 communities included Family Medicine clerkship or Family Medicine residency rotations. The 10 excluded communities were all sites teaching occasional elective UME and PGME learners.

Overall, 44 of 70 communities met all three proposed criteria for rural teaching hospitals. Key characteristics of the identified rural teaching hospitals are summarized in Table 2. Community size varied between 1206 and 25,085. The average number of teaching weeks was 113.9. Half of identified rural teaching hospitals (22/44) were sites involved in Longitudinal Integrated Clerkships, a longitudinal Family Medicine-based clerkship experience.

DISCUSSION

The proposed definition of a rural teaching hospital focuses on data that is likely to be available for a given hospital through DME units at each medical school and publicly accessible demographic data. It is important that such a definition be simple to implement and not only assessable in the context of research.

Applying the proposed definition to data from the University of Calgary and the University of Alberta successfully identified rural hospitals with substantial teaching commitments and excluded sites with less frequent teaching and sites not teaching Family Medicine clerkship or residents. This is useful in terms of recognizing active teaching sites and also in identifying areas where capacity could be developed. The proposed definition also successfully differentiated urban DME sites, which might be more appropriately classified as teaching hospitals by the CIHI definition, from sites located in more rural settings.

Teaching sites that act as role models for generalist practices are influential in producing future generalist physicians. Although a community's expression of generalism was not measured directly, the sites identified by this definition do reflect sites with a focus on generalist practice. This definition may be a marker for this key trait.

Limitations

One limitation of the definition concerns rural hospitals that accept learners from multiple institutions. In our data set 29 of the 70 identified sites had learners from both Alberta medical schools. If this definition were adopted and reported, some coordination between the medical schools and reporting agencies would be required to provide accurate data and prevent any undue burden of work falling to rural hospitals themselves. A second potential limitation of the definition would be the potential for identification of suburban sites as rural. This did not occur in the Alberta data set, but would need to be tested in other regions.

The importance of accessible data meant that some factors important for rural training,[13] such as a teaching philosophy grounded in generalism, and the generalist practice patterns of individual teachers could not be considered for inclusion in the definition because such data does not exist, or exists as research data only for some hospitals.

CONCLUSION

Creating a working definition for rural teaching hospitals is of high importance for both research and for day-to-day operations of rural educational units. Having a consistent and measurable definition can allow deeper understanding of teaching sites, focus development efforts, identify the important contribution of rural hospitals to medical education and allow research and scholarly work to be conducted across jurisdictions.

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