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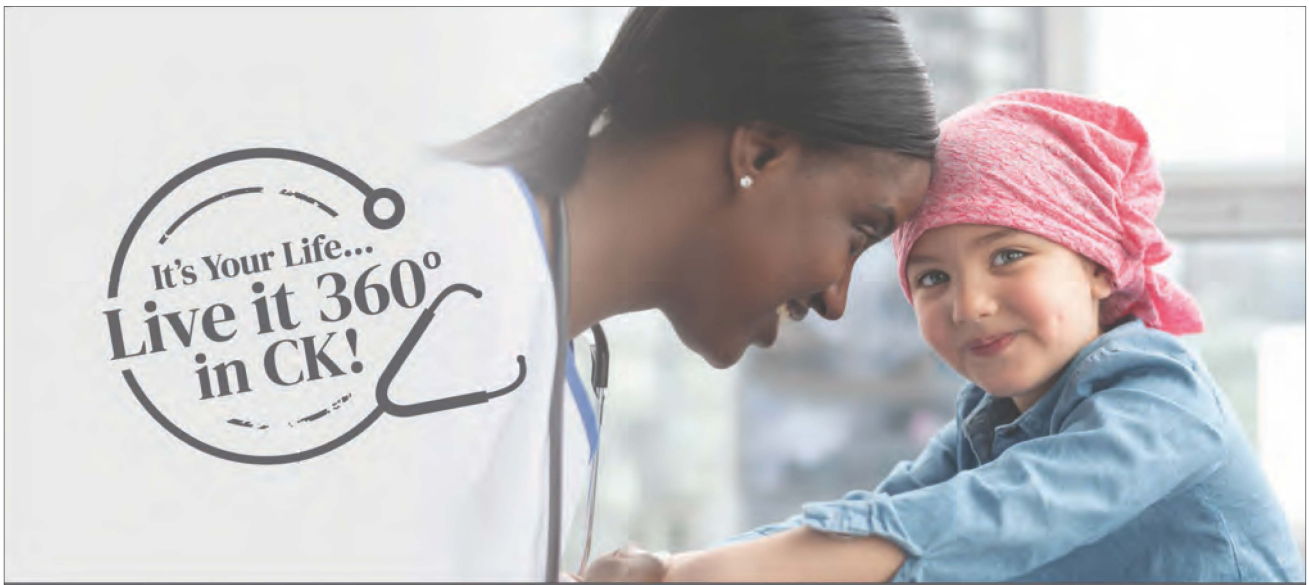

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Using Wisely: Our health workforce is our most valuable resource

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Choosing Wisely Canada encourages professional societies to develop a list of recommendations about commonly used tests and treatments that may need reconsideration. Professional societies are asked to identify medical interventions that are not helpful to patients in particular circumstances or may unnecessarily expose patients to harm.

The Choosing Wisely Canada Rural Medicine Recommendations were released on 16th September 2020.[1,2] They are published in this Edition of the Journal (see page 28) and are available on the websites of the Society of Rural Physicians of Canada (SRPC) and Choosing Wisely Canada.

When the SRPC was approached by Choosing Wisely to develop a list of recommendations that apply to rural medicine, there was some reluctance among rural physicians to withhold any tests or treatments. Rural physicians continually advocate for their patients so that they receive appropriate medical services. Rural Canadians already struggle with limited resources, poorer determinants of health and access to healthcare compared to their urban counterparts. Should we ask them to do with even less?

Although 18% of Canadians live in rural parts of the country, only 8% of physicians have their practices in these areas. Rural communities struggle to recruit and retain healthcare workers from all professions including nurses, laboratory and diagnostic imaging technicians and therapists.

The SRPC Working Group that developed the Choosing Wisely Canada Rural List of Recommendations is aware that many recommendations made by other speciality groups apply to rural medicine. Rural physicians are generalists whose practices cover the wide breadth of medicine, including office-based family medicine, hospital care, emergency medicine, obstetrics, surgery, anaesthesia, long-term care and others. However, the Working Group wanted to develop recommendations that were unique to the rural environment. Specifically, they wanted to emphasise appropriate use of our most valuable resource and our health workforce and promote care close to home.

In the recommendations, for example, we promote optimal use of laboratory and imaging staff and encourage thoughtful review of patient transfers to be sure that the anticipated benefits exceed risks of transfer and social disruption. We also recommend low urgency tests not locally available, such as certain screening procedures, be coordinated with other travel.

We encourage you to review the recommendations. They will be updated regularly, so please provide your feedback. We welcome suggestions for further recommendations!

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Utiliser avec soin : Nos travailleurs en santé sont notre ressource la plus précieuse

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Choisir avec soin Canada encourage les sociétés professionnelles à créer des listes de recommandations quant aux tests et traitements couramment utilisés sur lesquels il vaudrait la peine de s'interroger. On demande en effet aux sociétés professionnelles de nommer les interventions médicales qui sont inutiles aux patients dans certaines circonstances ou qui pourraient les exposer inutilement à des effets nocifs.

Les recommandations de Choisir avec soin Canada en médecine rurale ont été publiées le 16 septembre 2020.[1,2] Elles sont publiées dans ce numéro du journal et on peut les consulter sur les sites Web de la Société de la médecine rurale du Canada et de Choisir avec soin Canada.

Lorsque Choisir avec soin a demandé à la Société de la médecine rurale du Canada de créer une liste de recommandations s'appliquant à la médecine rurale, les médecins des régions rurales ont été réticents à enlever certains tests ou traitements. En effet, les médecins des régions rurales parlent continuellement au nom de leurs patients pour qu'ils reçoivent les services médicaux dont ils ont besoin. Comparativement à leurs homologues des milieux urbains, les Canadiens et Canadiennes des régions rurales se heurtent déjà à des ressources limitées, à de mauvais déterminants de la santé et à un accès limité aux soins de santé. Devrait-on leur demander de se contenter d'encore moins?

Alors que 18 % des Canadiens vivent dans les régions rurales du pays, à peine 8 % des médecins y travaillent. Les communautés rurales ont de la difficulté à recruter et à retenir les travailleurs en santé de toutes les disciplines, y compris les infirmières et infirmiers, techniciens de laboratoire et d'imagerie diagnostique et thérapeutes.

Le groupe de travail de la SMRC ayant créé la liste de recommandations de Choisir avec soin en médecine rurale est conscient que beaucoup des recommandations émises par d'autres groupes spécialisés s'appliquent à la médecine rurale. Les médecins ruraux sont des généralistes dont la pratique couvre une vaste gamme de disciplines médicales, y compris la médecine familiale en cabinet, les soins à l'hôpital, la médecine d'urgence, l'obstétrique, la chirurgie, l'anesthésie, les soins prolongés et autres. Le groupe de travail voulait toutefois formuler des recommandations qui sont uniques au milieu rural. Il voulait surtout insister sur l'utilisation appropriée de notre ressource la plus précieuse, nos travailleurs en santé, et favoriser les soins à proximité du domicile.

Dans les recommandations, par exemple, nous favorisons le recours optimal au personnel de laboratoire et d'imagerie et encourageons de réfléchir aux transferts des patients pour s'assurer que les bienfaits anticipés surpassent les risques liés au transfert et à la perturbation sociale. Nous recommandons également de coordonner avec d'autres déplacements les tests non urgents qui ne peuvent être faits localement, comme certaines interventions de dépistage.

Nous vous encourageons à prendre connaissance des recommandations. Elles seront mises à jour régulièrement, n'hésitez donc pas à nous donner vos commentaires. Vos suggestions pour ajouter des recommandations sont les bienvenues!

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President's Message. A productive fall council meeting

The pandemic has changed the way we connect. There have been many positive spinoffs from the expansion of virtual communication including improved access to care for rural patients and decreased costs and disruption related to medical travel. The aggravating downside of our scaled-up virtual presence is the screen fatigue that many of us are facing.

In October, the Society of Rural Physicians of Canada (SRPC) council held the fall meeting virtually. Despite the confines of Zoom, our meeting was productive and invigorating. We covered critical issues such as the future of our annual conference, organisational finances, the Choosing Wisely Canada rural recommendations,[1] College of Family Physicians of Canada (emergency medicine) practice eligibility and the Rural Road Map Implementation Committee. I'd like to briefly highlight several other points from the council's discussions.

With changes approaching the federal Medical Assistance in Dying (MAiD) legislation, the council voted to endorse our proposed recommendations to the Bill C-7 deliberations. SRPC's statement neither agrees nor disagrees with MAiD as a legal procedure as our membership includes both proponents and conscientious objectors. Rather, our recommendations are solely to ensure that the legislation does not create inequality for rural communities.

The College of Physicians and Surgeons of British Columbia has proposed changes to the Practice Standard for Non-Sexual Boundary Violations which would add restrictions on patient–physician social and business interactions. Proposals put forward in British Columbia (BC) and by other colleges fail to recognise the multiple roles that rural physicians play in their communities, and do not appreciate the value of our social relationships. We will continue to monitor for similarly impractical amendments and advocate when necessary.

Finally, the council discussed the recent stories of anti-indigenous racism in healthcare, including the painful example captured by Joyce Echaquan. Many of us have witnessed subtle and egregious displays of discrimination towards patients in our care. The SRPC council is committed to working with our members and indigenous partners to develop a robust strategy for anti-racist and culturally safe medical education.

The SRPC council discussions reflected the complexity of the time we're in. Our organisation, like our members, has had to adapt to the ever-changing social and political conditions that shape the health of rural communities. Fortunately, working at a distance is something we're all very good at. I left the virtual council meeting feeling energised, inspired and confident that together we can tackle the challenges that lie ahead.

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1. Available from: https://choosingwiselycanada.org/rural-medicine/. [Last accessed on 2020 Oct 16].

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Message du président. Une productive réunion d'automne du conseil

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La pandémie a changé nos interactions. L'expansion de la communication virtuelle a eu de nombreuses retombées positives, dont l'accès plus facile des patients ruraux aux soins et la réduction des coûts et des perturbations liés aux déplacements pour un rendez-vous médical. L'inconvénient exaspérant de notre grande présence virtuelle est la lassitude face à l'écran.

En octobre, le conseil de la Société de la médecine rurale du Canada (SMRC) a tenu sa réunion d'automne en mode virtuel. Notre réunion a été productive et revigorante en dépit des limites de Zoom. Nous avons parlé d'enjeux essentiels, tels que l'avenir de notre conférence annuelle, les finances de l'organisation, les recommandations de Choisir avec soin en médecine rurale[1] (ou voir la page 28 de ce numéro), l'admissibilité à la pratique de la médecine d'urgence (MU) du CFPC et le comité de mise en œuvre du Plan d'action pour la médecine rurale. J'aimerais brièvement souligner quelques autres points tirés de la discussion du conseil.

Avec des amendements imminents à la loi fédérale sur l'aide médicale à mourir, le conseil a approuvé les recommandations que nous avons proposées aux délibérations sur le projet de loi C-7. L'énoncé de la SMRC ne se prononce pas sur le caractère approprié de l'aide médicale à mourir à titre de procédure juridique, puisque nos membres sont constitués à la fois de tenants et d'objecteurs de conscience. Nos recommandations visent simplement à veiller à ce que la législation ne crée pas d'iniquités pour les communautés rurales.

Le collège des médecins et chirurgiens de la Colombie-Britannique a proposé des changements à la norme de pratique pour les dépassements non sexualisés des limites qui ajouteraient des restrictions aux interactions sociales et professionnelles entre patients et médecins. Toutefois, les propositions mises de l'avant en C.-B. et par d'autres collèges ne reconnaissent pas les nombreux rôles joués par les médecins ruraux au sein de leur communauté, et ne valorisent pas nos relations sociales. Nous allons continuer de surveiller la présence de modifications irréalisables et comme celle-là et défendrons notre cause au besoin.

Finalement, le conseil a discuté des récentes anecdotes sur le racisme anti-autochtone dans les soins de santé, y compris l'exemple douloureux filmé par Joyce Echaquan. Beaucoup d'entre nous avons été témoins de discrimination subtile et monumentale à l'égard des patients sous nos soins. Le conseil de la SMRC s'est engagé à collaborer avec nos membres et partenaires autochtones pour élaborer une stratégie robuste de formation médicale antiraciste et sécuritaire sur le plan culturel.

Les discussions du conseil de la SMRC reflétaient la complexité de l'heure. Notre organisation, à l'instar de nos membres, a eu à s'adapter aux conditions sociales et politiques en constante évolution, qui façonnent la santé dans les communautés rurales. Heureusement, nous maîtrisons l'art de travailler à distance. À ma sortie de la réunion virtuelle du conseil, je me suis senti énergisé, inspiré et confiant qu'ensemble, nous pouvons nous attaquer aux défis auxquels nous faisons face.

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ORIGINAL ARTICLE

Integration of care in Northern Ontario: Rural health hubs and the patient medical home concept

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Abstract

Introduction: Primary care reform in Ontario that provides accessible, comprehensive patient-centred care has been a work in progress for more than a decade. With the recent emergence of Ontario Health Teams and the conclusion of the Rural Health Hub (RHH) pilot project, insight into the philosophy, culture and expectations of rural and remote centres with regard to primary care delivery is required. The concept of the patient medical home (PMH) and the RHH offers frameworks that emphasise positive attributes towards quality care systems – continuity, accessibility, comprehensiveness and localisation of services and funding for system efficiency.

Methods: The application of these frameworks to rural and remote centres was explored via semi-directed face-to-face and phone interviews with physicians, patients and healthcare administrators at six rural centres in Northern Ontario.

Results: Continuity of care, local integration and healthcare culture reform were cited by participants as the most important aspects of optimisation of primary care in their environments.

Conclusion: These concepts support the RHH and PMH models and their further implementation as part of healthcare system transformation in Northern Ontario.

Keywords: Ontario health teams, patient medical home, primary care, rural and remote, rural health hub

Résumé

Introduction: La réforme des soins de première ligne en Ontario, qui entend fournir des soins axés sur les patients accessibles et complets, est en chantier depuis plus de dix ans. Avec la récente création des équipes de santé Ontario et la conclusion du projet pilote Carrefours santé en milieu rural, il nous faut une fenêtre sur la philosophie, la culture et les attentes des établissements des régions rurales et éloignées en matière de prestation des soins de première ligne. Les concepts de Centres de médecine de famille (CMF) et de Carrefours santé en milieu rural sont des infrastructures qui insistent sur les caractéristiques positives des systèmes de soins de qualité, soit la continuité, l'accessibilité, l'intégralité et la localisation des services et du financement afin d'assurer l'efficacité.

Méthodologie : L'application de ces cadres aux établissements des régions rurales et éloignées a été évaluée par l'entremise d'entrevues semi-structurées téléphoniques

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et en personne avec des médecins, patients et gestionnaires de santé de 6 établissements situés en milieu rural du Nord de l'Ontario.
Résultats : Les participants ont cité la continuité des soins, l'intégration locale et la réforme de la culture en santé comme les aspects les plus importants de l'optimisation des soins de première ligne dans leur environnement.
Conclusion : Ces concepts étayent les modèles de CMF et de Carrefours santé en milieu rural et leur élargissement dans le cadre de la transformation du système de soins de santé du Nord de l'Ontario.

Mots-clés : Soins de première ligne, centres de médecine de famille, carrefours santé en milieu rural, équipes de santé Ontario, régions rurales et éloignées

INTRODUCTION

Over the past several years in Ontario, an effort has been made to refocus the healthcare system on the elements of improved patient experience, improved patient and population outcomes and improved system value and efficiency. Included in these discussions are two concepts – rural health hubs (RHHs) and the patient medical home (PMH).

Conceived by the American Academy of Pediatrics, the PMH is a primary care delivery concept that focuses on providing comprehensive and longitudinal care that is coordinated, accessible, patient-centred and of high quality.[1-3] Both the College of Family Physicians of Canada and the Ontario College of Family Physicians have endorsed this primary care model as the future of Family Medicine in Canada.[4] In the US, this model has been shown to improve access to quality care, decrease emergency visits and hospitalisation rates, as well as increase patient and provider satisfaction.[5]

The RHH focuses on integration of services at a local small community level to provide comprehensive care across the healthcare environment that responds directly to community needs. At maturity, the RHH has a single-governance and single-funding envelope. [6] A pilot project on RHH implementation conducted in Northern Ontario[6-8] demonstrated the potential for reduction of administration costs, innovation of local resources to fill care gaps specific to the community and the opportunity to improve access and continuity for patients throughout the local healthcare system.[6,8,9]

RHH and PMH are mutually supportive in their mission to address the 'triple aim' of improved patient experiences, improved population outcomes and improved system efficiency. The concept of PMH focuses on who will provide care and how that care is coordinated and delivered within the primary care sector, whereas the RHH focuses on how those services are governed, funded and organised within the broader local healthcare system infrastructure.[5,6] The practicality of the model's application, and the value attributed to these concepts within existing rural and remote centres, is not well defined. Furthermore, with the advent of the new Ontario Health Teams which aim to create a connected patient-centred and coordinated healthcare team across a large population,[10] further research is needed to understand the culture, philosophy and expectations of rural centres in the healthcare reform context. In this study, individual and group discussions were undertaken at centres across Ontario to explore the barriers and limitations to quality care and the characteristics of an ideal healthcare system where they pertain to the PMH and RHH framework.

METHODS

The project was approved by Lakehead University's Research and Ethics Board (Romeo #1466506). Individual and group-based interviews, lasting no more than 60 min, were conducted across various rural and remote centres participating in the RHH pilot in Northern and Eastern Ontario. Interviews were completed face-to-face and via telephone. An e-mail to gauge participation interest was sent across the regions to Hospital CEOs, Family Health Team Directors and Patient Advisory Council Directors with instructions to forward the study information to any interested participants, including patients, hospital employees, as well as local physicians. A monetary incentive was provided for physicians,

as recruitment of this subgroup was difficult. Any and all interested participants were interviewed.

Interviews were conducted by a single individual who used a semi-structured interview style with initial set of discussion questions followed by clarifying statements specific to the preceding dialogue. Both free-listing and ranking techniques were used to remove subjective interpretation of the data. The questions were developed to stimulate discussion on the different elements of the PMH and the RHH concepts and to assess their applicability within different communities. Barriers and enablers of quality care were also elicited. Each interview was recorded and transcribed before a thematic analysis[11] was completed, as aided by the use of qualitative data computer software (NVivo, QSR International, LLC. (2019). NVivo (Version 12) [software] Offices: Burlington, MA, USA).

Transcriptions initially underwent a narrative analysis, wherein testimonies for each specific question were assessed to identify a 'global theme'. These global themes were assigned as first-pass codes, which were subsequently assigned to specific sentences when re-reading all the testimonies. Subsets of secondary themes, within these global themes, were created, and the testimonies were re-read, tagging sentences associated with these sub-themes. Once all testimonies were tagged with both global and secondary themes, the themes were weighted based on their recurrence across communities and interview group types, to identify the top three recurring themes and their associated sub-themes. These were then compared to the RHH and PMH frameworks. Outlier trends were also identified, and demographic information was applied to help understand their context.

RESULTS AND DISCUSSION

A total of 12 participants (4 patients, 1 physician and 7 individuals in managerial positions within local healthcare settings) from six rural and remote cities/towns in Northern and Eastern Ontario (Arnprior, Kenora, Marathon, Dryden, Espanola and Halliburton) participated in the study.

Continuity of care, local integration and healthcare culture reform were cited by participants as the most important aspects of optimisation of primary care within local rural and remote environments. These overarching themes were present in the discussions with all participants. Non-significant differences in recurring themes and opinions differed between patient, administrative staff and physicians who were interviewed. These themes correlate with striking resemblance to pillars of the PMH and the RHH frameworks, as discussed below.

Continuity of care

The PMH has core functions of comprehensive care, patient-centred care, accessibility and continuity of care.[4] Providing fully integrated continuity of care within a community requires that the following four elements of care, as highlighted by participants, be addressed: culture, environments, relationships and healthcare system. The majority of interviewees also identified 'system navigation', or the ability to navigate through the healthcare system, as the factor with the most influence on continuity and coordination of care.

Culture

The culture of an organisation is a reflection of its mission, vision and values. These organisational characteristics orient and define the services provided by an organisation and the way in which they are delivered. As such, organisations with similar cultures and goals have the opportunity to not only provide complimentary services within the global local healthcare system but also provide them in such a way that emphasises a similar delivery model.

The majority of hospital administrators identified cultures across organisations as the key to ensuring continuity of care throughout the healthcare system. *'Having that constant… culture, with the patient at the centre, is really important',* stated one participant, as it not only allows the patient to understand the boundaries and expectations of the system but also provides greater opportunity for collaboration and team-based care between local organisations. Participants, however, largely identified that to have such a culture *'… is really difficult when dealing with multiple organizations and agencies, because the cultures are all a little bit different'*. Patient participants emphasised the need for a shared culture amongst all local healthcare programmes to increase the accountability of certain programmes which they perceived not to be patient-centred.

System: Patient navigation

In support of patient centredness, 100% of the respondents identified patient navigation as the most influential factor in good continuity of care. Organisation of the local healthcare system to provide seamless transitions between environments – for example – back to primary care and adjunctive programmes following a hospital admission – was identified by 11 of the 12 participants as the key to the provision of the best continuity of care. The way in which these transitions are coordinated varies, as it is dependent on the availability of resources at the local level. However, ultimately, *'… the patient shouldn't have to understand what [the] organizational structure looks like behind the scenes'*. The process of transitions between environments should be seamless, and administrative burden for patients should be minimised. Throughout discussions, interviewees outlined local innovative solutions to address patient navigation at the local healthcare system level.

As one example, some interviewees described the employment of Registered Nurse (RNs) in the primary care setting. These nurses attend discharge planning rounds in the hospital setting and coordinate appointments for the patient to the various required healthcare providers. This eliminates the need for the patient to have to coordinate their own appointments. Other communities developed simple single referral forms for their local mental health programmes to ensure that patients received the appropriate services they need. Instead of healthcare providers having to send multiple referrals to all programmes to see *'which one sticks'*, the use of the single referral form allows coordination and cooperation among mental health agencies to determine which organisation the client would most benefit from. Patients are therefore able to gain access to the care they need more rapidly than the previous model wherein physicians had to follow up with multiple organisations to find a service willing to accept their patients.

Other communities have integrated all, or many, of their healthcare organisations into one or two buildings with a common entrance and office staff. This provides a 'one-stop location' for patients to receive information or have their questions answered. The benefit of such local system changes is best highlighted by the frustration expressed by one of the participants with regard to the current system: *'If I show up to the ER with anxiety, and my emergent issue is taken care of at the hospital, I shouldn't now have to worry about booking a follow-up appointment with my primary care physician or my counsellor – it should just happen'*. This quote illustrates the need for the development of appropriate transitions between care environments via system changes that optimise and simplify patient navigation within the healthcare system and improves system efficiency. These examples also illustrate the need for well-coordinated team-based care to provide comprehensive quality care.

Environment: Emergency medical records

It is inevitable that a patient will receive care in multiple environments throughout their lifetime. From emergency departments to physician offices or in-patient wards, coordinating seamless continuity of care throughout these environments is difficult. This reality is best illustrated in the emergency department where a physician meets a patient for the first time and is often unable to access information concerning the patient's past medical history, medications currently taken or any current care plans in place. The PMH framework outlines the need for shared electronic medical record (EMR) systems as an optimisation of informational continuity of care when patients are accessing different care environments. [4] One participant stated that *'continuity of care is a system wherein the healthcare provider can access the information they need to provide the best care and appropriate care to the patient'*, while another stated, *'I think continuity ideally is people that are on the same EMR so that we can access the same information and minimize the amount of times a patient needs to repeat their story'*. All participants agreed on the need for such a system, but opinions varied as to the application or development of such a system. A total of 7 of the 12 participants indicated the need to have a province-wide system based on an identifier assigned to a person at birth. Although none of the centres interviewed had a fully integrated EMR system, 5 of 6 sites provided access to the primary care EMR to their emergency physicians as part of the 'RHH' of care. This was overwhelmingly thought to be a positive attribute of some of the

already successful local integrations within the 6 centres interviewed.

Relationships?

In addition to a shared EMR, the PMH vision suggests that the same physician or care-team provides care that transcends environmental boundaries.[4] In rural health hubs, it is often the same physician who will be providing office-based primary care, emergency care, and in-hospital care. The role of the physician working in multiple environments was identified by 7 respondents as beneficial. When asked, 'Who is the most responsible person for your health?', apart from the identification of the patient as the decision-maker, respondents identified the family physicians as the 'quarterback' of the team.

'Having that continuity of family physician that follows you through the system is incredibly important because they know your health history, your medical history, they know some of the more important health challenges that you are dealing with, and certainly in terms of the particular acute episode, that is all put into context for them more quickly then if you were seen by someone who doesn't know you at all, and has to get all the information gathered'.

Although identified as the 'quarterback' of the team, many respondents felt that physicians shoulder large burdens that could be delegated to colleagues on the team to optimise their personal quality of life. Five of the interviewees stated that if the other previously discussed factors were addressed, such as a shared EMR system, improved patient system navigation and alignment of local healthcare cultures, the role of the physician could remain the most responsible provider (MRP) while care is more broadly shared.

The interviews identified continuity of care as a principal target for reform of existing primary care delivery. A total of 8 respondents agreed that the pillar of continuity of care within the PMH framework is best optimised when the issues are addressed of a common EMR system, a single healthcare provider throughout care environments, improved transitions between care environments and patient navigation of the system, as well as a system culture focusing on patient-centred care.

Local integration – System

As already defined, an RHH is, at maturity, 'the integration of local services into a single-governance structure with a single-funding envelope'.[6] The Ontario Hospital Association has identified that this model optimises patient-centred care via the coordination of local services to reflect the needs of the community and the provision of full-service comprehensive care, including acute and long-term care, primary care, hospital-based care and community programming.[6] A large majority of interviewees highlighted that they preferred to receive care in their community, rather than travel elsewhere. However, they were very understanding of the realities of living in a rural environment. The opinion that *'having one service would streamline the process'* was echoed in 100% of the respondents when asked if the implementation of an RHH would be beneficial. Without prompting or discussion of advantages of RHH models, 10 of the 12 respondents identified the need for system integration to improve the delivery of healthcare. They identified the need for a central communication platform, funding flexibility and centralised access to information as the key priorities for system integration and overall improved patient care.

All respondents agreed that to improve local care, it was necessary to have a local decision-making committee, composed of representatives from various healthcare organisations and patient representation, to provide input on service requirements in the community. These types of platforms were listed as essential to brainstorming innovative ideas for provision of care, to ensure that cultures between organisations could be aligned towards a similar goal and to improve on communication and cooperation between organisations. These communication platforms were identified by 3 communities as an ideal space for the development of formal agreements between organisations for the development of new or existing initiatives. Three of the administrative respondents listed that a large barrier to the development of these communication platforms was the human resources required for their implementation and maintenance.

Further, to the need for a decision-making committee, the need for a fully integrated system was also highlighted by 7 respondents.

'There shouldn't be this many organizations. In a small town there should be one organization that coordinates the healthcare services for the community. There is no reason to be more than one building even for services'.

System: Funding

All 8 administrative and physician respondents identified funding silos as a limiting factor to improving system efficiency and attempting to integrate locally. Collective agreements and funding specific to only certain activities are prohibitive to the development of new initiatives that are community driven. Funding silos limits ability to maximise the use of human resources to fill community needs. Allocation of a single sum of money to a community, with full control over distribution of resources, would allow communities to be innovative with their funds. It allows them *'the flexibility to move the staff to where they are needed the most'*. It provides them with the opportunity to take community and front line staff suggestions to optimise delivery or develop requested services. Barriers to the use of the single funding envelope were identified as the need to first create a fully integrated system under a single-governance or create a totally integrated system where primary, hospital, community and long-term care are governed by one administration capable of monetary allocations. The coordination of many local organisations with various collective agreements and slightly different missions and visions makes this process extremely difficult to realise. The use of an overarching committee with representation from various organisations was listed by 8 respondents as a suitable alternative. One respondent highlighted that the use of an overarching committee is nonetheless beneficial to communities.

'All of these small agencies do not have the time to develop their own quality improvement plan, but they may have one tiny piece of information on one of the community indicators that we are all working together on as a community. By joining the table, we can all contribute a little to effect a large amount of change and feel like we are part of the solution'.

As a step along the maturity continuum of the RHH, this solution, of an overarching committee, offers the opportunity of timely implementation of new initiatives as it eliminates certain bureaucratic requirements of a merger between organisations while supporting opportunity to collaborate intentionally and formally on shared goals.

Healthcare culture reform

To be considered a fully integrated RHH, it is necessary to amalgamate services into one organisation that shares a common managerial and front-of-house staff (i.e. receptionist, accounting). This level of integration is hindered by the competitive nature of the healthcare system and was an issue identified by all 8 of the non-patient respondents. The current use of various collective agreements and funding silos has created a culture within many organisations that cooperation with others equates to a potential decline in patients and subsequent cuts to funding. Individuals are fearful of change because they fear that will mean termination of funding and job opportunities.

Health service integration planning and bargaining integration also require significant human resource hours which are limited in small settings where individuals within administration are responsible for multiple roles within the community. As such, five respondents, called for a need for the government to mandate local integration since *'having different envelopes, different reporting structures or being accountable to different areas in government are huge barriers'*. If the government mandated local integration and modified funding and reporting to a single governing organisation, it would help alleviate the long-term human resource burden, provide control to the community to identify their local needs and ultimately optimise care for patients. It would force local communities to maximise their current funding appropriately with community specific innovative solutions, before having to request more funding.

Furthermore, the possibility of changing government reporting expectations and the volume of reporting for funding received were highlighted as a reform for healthcare processes. *'Let's cut out the 17 different reporting structures. We need to work on efficiency. There is too much reporting for too many things going to too many different places'*. Four respondents highlighted the need to focus on quality measures specific to each community. This could measure the progress of local integration and the introduction of new programs or initiatives. An example of a proposed healthcare measure included a *'focus on measuring the years lived with good quality of life of the citizens in the community and track the changes, post-implementation, of system integration'*, stated one administrator.

Limitations

The impact of this study is limited by the sample size. The results discussed are heavily influenced by the impressions and opinions of participants who occupy managerial roles in their communities, such as being Director of the Family Health Team, the Hospital CEO or similar role. More representative conclusions would have been elicited if a greater number of patients and physicians could have been recruited for the study. Furthermore, throughout the study, at no point were conflicts of interest discussed with participants with regard to their possible involvement in government committees, Ontario LHIN positions and/or their involvement in the Ontario Rural Health Pilot Project. Consequently, confounding factors such as vested interest in the form of involvement with government operations or specialised projects were not accounted for in the analysis of the results.

CONCLUSION

The interviews conducted highlighted the importance of continuity of care, local integration and action on behalf of the government to transform healthcare in rural and remote environments. The majority of the respondents identified many attributes of the RHH and PMH models as attributes of a local healthcare system worth pursuing. These include shared EMR systems, shared governance, improved patient navigation by team-based coordination of care and healthcare organisation cultures focused on the patient.

As Ontario Health Teams evolve, the importance of local cultures of care, the ability to receive care as close to home as possible and the importance of well integrated team-based care must be borne in mind. Ontario Health Teams evolving in rural areas may be wise to facilitate the development of local rural health hubs in which the primary care sector embraces the core functions of the PMH. The aim would be to create networks of local hubs of care rather than risk disrupting the relationships and local flow of care in small communities.

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ORIGINAL ARTICLE

Fluoroquinolone use in a rural practice

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Abstract

Introduction: Fluoroquinolones (FQs) are a commonly prescribed class of antibiotics in Canada. Evidence of a constellation of possible adverse events is developing. Central and peripheral nervous system abnormalities and collagen-related events (including aortic aneurysm/dissection, tendinopathy/rupture and retinal detachment) are associated with FQ exposure in large population-based aftermarket studies. In 2017, Health Canada warned about rare FQ-related persistent or disabling side effects. This study explores FQ use in a rural community.

Methods: Antibiotic prescriptions (including FQs) in the over 18 adult population (5416) were measured in the town of Sioux Lookout for 5 years, January 2013 to 31 December 2017.

Results: FQ prescriptions accounted for 16.0% of adult antibiotics, superseded by penicillins (21.1%) and macrolides (18.2%). Ciprofloxacin accounted for one half of FQ use (51.2%), followed by levofloxacin (36.7%) and norfloxacin (13.3%). FQs were commonly used for respiratory (33%) and urinary tract infections (18%).

Conclusion: Aftermarket evidence reports increased risk of 'disabling and persistent serious adverse events'(Health Canada) in patients using FQs. Appropriate clinical caution should be exercised in the prescribing of FQs. Common overuse seems to occur in the treatment of uncomplicated community-acquired pneumonia and cystitis, despite recommendations to use other antimicrobial agents as first-line treatments.

Keywords: Antibiotic, fluoroquinolone, rural

Résumé

Introduction: Les fluoroquinolones sont une classe d'antibiotiques souvent prescrite au Canada. Mais les données étayant une gamme d'événements indésirables possibles s'accumulent. Des anomalies du système nerveux central et périphérique, et des événements liés au collagène (dont anévrisme ou dissection de l'aorte, tendinopathie/rupture et décollement de la rétine) sont associés à l'exposition aux fluoroquinolones dans des études de pharmacovigilance d'envergure basées sur la population. En 2017, Santé Canada a émis une mise en garde au sujet des effets indésirables rares, persistants ou incapacitants liés aux fluoroquinolones. Cette étude se penche sur l'emploi de fluoroquinolones dans une communauté rurale.

Méthodologie: La prescription d'antibiotiques (y compris de fluoroquinolones) a été mesurée dans la ville de Sioux Lookout pendant 5 ans, soit de janvier 2013 au 31 décembre 2017 auprès de la population de 18 ans et plus (5416 personnes).

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Résultats: Les fluoroquinolones comptaient pour 16,0 % des antibiotiques prescrits aux adultes, elles étaient précédées des pénicillines (21,1 %) et des macrolides (18,2 %). La ciprofloxacine représentait la moitié de l'emploi de fluoroquinolones (51,2 %), suivie de la lévofloxacine (36,7 %) et de la norfloxacine (13,3 %). Les fluoroquinolones étaient fréquemment utilisées contre les infections respiratoires (33 %) et urinaires (18 %).
Conclusion: Les données de pharmacovigilance rapportent un risque accru « d'événements indésirables graves persistants et incapacitants » (Santé Canada) chez les patients sous fluoroquinolones. La prudence clinique appropriée est de mise lors de la prescription de fluoroquinolones. La pneumonie extra-hospitalière non compliquée et la cystite semblent être à l'origine de la surutilisation, malgré les recommandations d'utiliser d'autres antimicrobiens en première intention.

Mots-clés : Fluoroquinolones; antibiotiques; effets indésirables; rural

INTRODUCTION

Antibiotic stewardship is an important component of clinical practice.[1] Most antibiotics (90%) are prescribed in the community and patterns of use are recognised as a national and rural issue.[2,3] The (over) use of fluoroquinolones (FQs) is a common target for quality improvement discussions.[4-6]

Since the arrival of FQs in 1986, their perceived safety profile, excellent oral absorption, wide spectrum of activity and lack of established resistance have led to overprescribing.[7] They are the third most common adult antibiotic prescription in Canada; Newfoundland has the highest rate of FQ prescribing.[1,8] In 2017, FQ accounted for 12% of adult prescriptions in Northwest Ontario.[9]

Awareness of serious adverse effects associated with FQ use has grown.[5] Large population-based studies describe increased incidences of aortic dissection, tendon ruptures and retinal detachment.[10-15] While these adverse events appear widely divergent, a proposed common denominator by FQ is the disruption of fibroblast enzymes responsible for collagen cross-linking in structures reliant upon collagen type 1 fibres (retina, tendons and major vessels).[16-18]

In 2017, Health Canada warned of an association with permanent peripheral neuropathy, seizures and Achilles tendon rupture.[12] In 2018, the American Federal Drug Agency added aortic rupture, mental health and hypoglycaemic coma to its warning.[19-21] One focus of overuse has been in uncomplicated urinary tract infections. Surprisingly, in Canada in 2014, 46% of uncomplicated urinary tract infections were treated with ciprofloxacin[22] despite recommendations for its limited use as a second-line agent.[22] Little is known about the use of FQs in rural Canada. This study will examine their use in a rural setting in Northern Ontario.

METHODS

Antibiotic prescribing was calculated in the 18 + years population in the town of Sioux Lookout, Ontario, over a 5-year period, January 2013 to 31 December 2017. Prescriptions were tabulated as individual episodes (a patient who received two concurrent antibiotics was counted as two prescriptions) using Anatomic Therapeutic Classification 9ATC) coding for antibacterial drugs.[23] Since the inception of the electronic medical records (EMR) in 2013, family physicians almost universally prescribed electronically. A review of the OSCAR electronic health records (EMR) at the Hugh Allen Clinic (the primary clinic for the group of MDs in this study) included clinic visits (13,829), hospital outpatient and emergency department electronic prescriptions for the practice population; it excluded handwritten scripts and specialist prescriptions. Only adult population data were used as FQs are rarely prescribed in the paediatric population due to concerns around cartilage development.[24]

The study was approved by the Sioux Lookout Meno Ya Win Health Centre Research Review and Ethics Committee.

RESULTS

There were 4563 outpatient antibiotic prescriptions from 2013 to 2017 for the adult practice population of 5416 adults (2760 females), an average of 843 prescriptions per 1000 persons. These were prescribed to 2275 unique patients [Table 1].

Table 1: Adult antibiotic prescribing rate for Sioux Lookout, NW Ontario and Canada			
	Sioux Lookout	Northwest Ontario	Ontario
Antibiotic prescriptions per 1000 adults	843	687	697
FQ use, % of all	15.7	12	12

FQ: Fluoroquinolone

Table 2: Adult antibiotic prescriptions by class 1 January 2013-31 December 2017 Sioux Lookout	
Antibiotic	Number of adult 18+prescriptions (%)
Macrolides	975 (21.0)
Penicillins	825 (18.1)
Fluoroquinolones	718 (15.7)
Cephalosporins	588 (12.9)
TMP/SMX	566 (12.4)
Tetracyclines	309 (6.8)
Nitrofurantoin	313 (6.9)
Metronidazole	239 (5.2)
Others	30 (0.7)
Total	4563 (100)

Table 3: Diagnoses associated with fluoroquinolone use in Sioux Lookout, 2013-2017*	
Diagnosis	Percentage of FQ scripts
Respiratory	33
Genitourinary	20
Uncomplicated UTI	18
SSTI	9
Gastrointestinal	9
Travel prophylaxis	8
ENT	4

*Derived from a random sample of 25% (180) of all 718 FQ prescriptions.
FQ: Fluoroquinolone, UTI: Urinary tract infection, ENT: Ear, nose and throat, SSTI: Skin and soft tissue infection

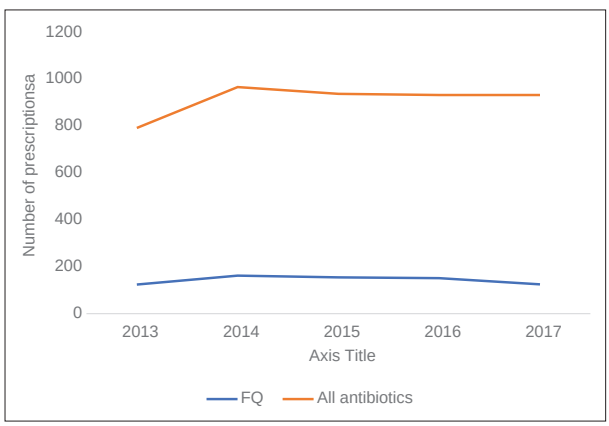

Figure 1: Number of adult antibiotic and fluoroquinolone prescriptions in Sioux Lookout, 2013–2017.

FQs accounted for 15.7% (718/4,563) of adult antibiotic prescriptions and were the third most commonly prescribed class of antibiotic, after macrolides and penicillins [Table 2], [Figure 1].

Half of all Sioux Lookout FQ prescriptions were for ciprofloxacin (51.2%), followed by levofloxacin (35.5%) and norfloxacin (13.6%). The most common indication was respiratory, followed by genitourinary infection [Table 3].

DISCUSSION

Antibiotic and FQ use in this primary care practice in Sioux Lookout remained stable during the 5-year study period, with FQs the third most prescribed antibiotic class in the adult population. This is similar to Canada-wide adult prescribing patterns, where ciprofloxacin followed amoxicillin and azithromycin in frequency. [1]

The rate of antibiotic prescribing per 1000 persons was higher with an average annual adult prescription rate of 842 prescriptions compared to provincial and regional rates (697, 687 respectively). We also prescribed more FQs than the regional proportion of adult antibiotic prescriptions (15.7% vs. 12.0%).[9]

FQs are not recommended for the treatment of community-acquired pneumonia in healthy adults nor for uncomplicated urinary tract infections, but accounted for an estimated 33% and 18% of our FQ use, respectively, leaving substantial room for improvement.[24,25]

A 2017 survey of the antibiotic-prescribing habits of 202 Canadian primary care providers documented an urban-rural difference: rural physicians were less likely to prescribe an FQ as a first-line therapy for uncomplicated cystitis than urban providers (10% vs. 50%), perhaps due to concern regarding patient costs.[5] FQ overuse increases resistance; in 2015, *Escherichia coli* isolates were resistant to ciprofloxacin in Ontario and the Sioux Lookout Meno Ya Win Health Centre at 20% and 16%, respectively.[26,27]

Risk can be individualised to specific adverse events, including athletes (Achilles tendon rupture) and patients with

common regional risk factors: diabetic retinopathy (retinal detachment) and patients with hypertension (aortic rupture).

The U. S. Food and Drug Administration boxed warnings have shown to have minimal effect on prescribing.[28,29] Health Canada warns of 'disabling and persistent serious adverse events'.[12] This study focussed on the specific prescribing pattern for a single rural practice; it is hoped that circulation of the results within the practice and presentation at local educational grand rounds will effect change in prescribing and influence discussions of side effects with patients.

A regional initiative by the Northern Health Authority in northern BC is developing a community-based antibiotic stewardship program; it includes the involvement of a clinical pharmacist, the development of approved practical order sets and clinical pathway tools for clinicians and provision of a patient-specific pharmacy support.[30]

Limitations

The occurrence of serious FQ side effects was not feasible in such a small population and limited study period. Only primary care prescribing was analysed, excluding the antibiotic choices of the two community general surgeons.

CONCLUSION

This study demonstrates a greater than expected rate of antibiotic prescribing and FQ use in a rural primary care practice in Northwest Ontario. Appropriate clinical caution should be exercised in the prescribing of FQs, particularly avoidance in the treatment of uncomplicated cystitis.

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Original Article

Shared medical appointments for Innu patients with well-controlled diabetes in a Northern First Nation Community

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Abstract

Introduction: The prevalence of diabetes and its complications in the Innu community of Sheshatshiu is high. We wanted to determine if shared medical appointments (SMAs) could provide culturally appropriate, effective treatment to Innu patients with relatively well-controlled diabetes, as an alternative to standard, 'one-on-one' care.

Methods: We conducted a mixed-method study including a randomised controlled trial comparing standard care versus SMAs for patients aged 18–65 years with haemoglobin A1C (HbA1C) of ≤7.5%, followed by a qualitative study using semi-structured interviews with patients who attended SMAs.

Results: Among 23 patients, 13 received the intervention. There were no significant differences of HbA1C level or HbA1C percentage of change between intervention and control groups at baseline, 6 months or 12 months. There were no statistical differences between standard care and SMA groups, concerning mortality or the need for haemodialysis. The qualitative analysis found that patients generally enjoyed the SMA model and the peer support and learning benefits of the SMAs. Patients did not believe that the SMA model was more or less culturally appropriate than standard care, but the majority said they felt that the SMAs were good for the community and could be a good venue for incorporating Innu healthy–lifestyle knowledge into medical diabetes care.

Conclusions: SMAs may be an efficient way to manage well-controlled diabetic patients in the Innu community of Sheshatshiu and to provide peer support and opportunities for learning and incorporating community-specific knowledge into care.

Keywords: Diabetes care, First Nations Community, indigenous health, shared medical appointments

Résumé

Introduction : La prévalence du diabète et de ses complications est élevée dans la communauté innu de Sheshatshiu. Nous voulions déterminer si, plutôt que la norme de soins personnalisés, les rendez-vous médicaux partagés pourraient dispenser un traitement efficace et culturellement approprié aux patients innu dont le diabète est relativement bien maîtrisé.

Méthodologie : Nous avons réalisé une étude à méthodologies mixtes, soit une étude avec répartition aléatoire et contrôlée pour comparer la norme de soins aux

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rendez-vous médicaux partagés auprès de patients de 18 à 65 ans dont le taux d'HbA1C était inférieur ou égal à 7,5 %, suivie d'une étude qualitative ayant eu recours à des entrevues semi-structurées auprès de patients s'étant présentés à des rendez-vous médicaux partagés.

Résultats : Treize patients sur 23 ont reçu l'intervention. On n'a observé aucune différence significative du taux d'HbA1C ou du pourcentage de variation du taux d'HbA1C entre les groupes intervention et témoin, au départ, et à 6 ou 12 mois. On n'a observé aucune différence statistique entre les groupes norme de soins et rendez-vous médicaux partagés en ce qui concerne la mortalité ou le besoin d'hémodialyse. L'analyse qualitative a indiqué qu'en général, les patients appréciaient le modèle des rendez-vous médicaux partagés ainsi que le soutien par les pairs et l'apprentissage qu'ils en tiraient. Les patients ne croyaient pas que le modèle des rendez-vous médicaux partagés était plus ni moins approprié que la norme de soins sur le plan culturel, mais la majorité était d'avis que les rendez-vous médicaux partagés étaient favorables pour la communauté, et seraient l'occasion d'incorporer les connaissances sur le mode de vie sain innu dans les soins médicaux du diabète.

Conclusions : Les rendez-vous médicaux partagés seraient une façon efficace de prendre en charge les patients dont le diabète est maîtrisé de la communauté innu de Sheshatshiu, et de fournir un soutien par les pairs, et l'occasion d'apprendre et d'incorporer dans les soins les connaissances sur la communauté.

Mots-clés : Soins du diabète, rendez-vous médicaux partagés, communauté des Premières Nations, santé autochtone

INTRODUCTION

Diabetes is a major health concern for the Innu community of Sheshatshiu in Central Labrador. The community has seen a dramatic increase in the number of people experiencing complications and requiring haemodialysis as a consequence of poorly controlled diabetes and has identified reducing diabetes rates as one of their main health priorities in their community-led Innu healing strategy.[1] One model of diabetes care that could offer an effective alternative for Innu patients is shared medical appointments (SMAs).

SMAs are recognised as an efficient strategy for improving primary healthcare.[2] With SMAs, patients sharing a common condition attend medical appointments in a group, as an alternative to standard care (one-on-one appointments with a single practitioner).[3] SMAs include social interaction, an educational component and evaluation and consultation with a physician. Pharmacists, diabetic educators, dieticians and others are included in SMAs as well. Therefore, SMAs have the added benefits of improving patient access to allied health providers. Not only does the model allow patients to access multiple practitioners at a single appointment, but also the cost of care is reduced through the simultaneous provision of a variety of services to multiple patients at a time.[3]

For indigenous communities, including First Nations, 'health' is often understood to be held in a collective sense, dependent on relationships and the interconnectedness of all people and things; and as a holistic concept, encompassing the mental physical, spiritual and emotional aspects of well-being.[4-6] For this reason, we hypothesised that the nature of SMAs could be a proper fit for Innu patients as they take a community-oriented and holistic approach to diabetes care and education. We aimed the study at patients with relatively well-controlled diabetes. Our rationale was that if we could provide relatively well-controlled diabetics with good care through the SMA model, resources would be freed up that could be directed at patients suffering from complications of diabetes. The community's leadership wanted us to implement the SMAs on a trial basis, in conjunction with staff of the local health authority. The research objectives were (1) to examine the effect of SMAs on patients' glycaemic control compared to standard care for relatively well-controlled, Innu diabetic patients in Sheshatshiu and (2) to identify the patients' perspectives on SMAs in comparison to standard care.

METHODS

Study design

We employed a mixed-method approach to address our research question[7] in the Innu community of Sheshatshiu near Goose Bay, Newfoundland and Labrador. The community has a population of about 1000.

Quantitative investigation

A randomised control trial (RCT) compared the effects of SMAs with standard care on glycaemic control (haemoglobin A1C [HbA1C] change) as an indicator of patients' health outcomes at the only clinic in the community. A group of relatively well-controlled (HbA1C of ≤7.5%) diabetic patients underwent a trial of 6 months of SMAs. Their HbA1C levels were compared to a control group, who received 6 months of standard, individual appointment care.

Qualitative investigation

Patient perspectives were gathered through semi-structured interviews with patients who participated in the SMA trial. The interviews aimed to understand the patient views on SMAs as a model of diabetic care for themselves and their community and how they compared to standard care. Understanding patient perspectives allowed us to more fully evaluate the efficacy and suitability of the SMA model for patients in the community, as indigenous peoples' perspectives and knowledge should be integral to any research that addresses their communities' health.[8,9]

Selection and description of participants

The patients recruited for the study were Innu diabetic patients who attended the only local clinic providing diabetes care in the community. All Innu diabetic patients in the practice with an HbA1C level ≤7.5% on their most recent test before recruitment, who were not pregnant, and who were within the ages of 18–65 years were invited to participate in the study (n = 27). A well-controlled diabetic patient was defined as a patient whose HbA1C levels were <7.5%. This threshold was chosen based on clinical knowledge of the condition of diabetic patients within the practice in comparison to other diabetics in the community.

Recruitment occurred during October and November 2016. Patients who were willing to participate received a description of the trial in Innu-Aimun, the community's primary language, from a local research assistant. They were provided with informed consent form, given the opportunity to ask questions and provide or decline consent to participate.

The patients were randomised into an intervention and control group. Simple randomisation was used for a 1:1 allocation ratio.

Quantitative study: Randomised control trial

Intervention

Patients in the intervention group participated in 6 monthly SMAs over a period of 6 months beginning in January 2017 at the community clinic. Each was 45 min, including an introduction by the family physician, presentations by a dietician or diabetic educator, time for questions and free discussion. At each appointment, each patient was consulted by the physician, their blood pressure was measured and necessary prescriptions were provided. SMAs were conducted in English, with an Innu-Aimun translator present to assist patients, if needed. A summary of SMAs and standard care is provided in Table 1.

Control

The control group continued to receive standard care at the same community clinic. This included their typical one-on-one appointments with their physician and other healthcare providers (diabetic

Table 1: Description of intervention and differences between shared medical appointments and standard care

SMAs
Appointments occurred once per month, for a period of 6 months
Up to 13 patients attended each appointment at the same time
Appointment time of 45 min
Appointments include
Introduction by physician
Education session with RN diabetic educator, dietician and/or community diabetes worker
Individual consultation and assessment with physician, including medication checks, blood pressure checks, questions and answers
Time for questions and answers with all practitioners and other group members

SMAs: Shared medical appointments

educators, community health workers and dieticians), on an as-needed basis. All participants were patients within the same physician's practice at the same clinic and also had access to the same additional practitioners, to control for variation in care and services.

Outcomes

The primary indicator of health outcome was HbA1C. HbA1C was measured at baseline, after the 6 months of intervention and again at 12 months, for both intervention and control groups. HbA1C levels were determined through blood samples collected and analysed by laboratory technicians with the regional health authority. We also gathered and followed patient mortality and numbers of patients requiring haemodialysis. Characteristics such as sex and age were also gathered at baseline.

Follow-up

Patients in both the intervention and control groups were followed up for 1 year, from January 2017 to January 2018. The intervention ran for a period of 6 months beginning in January 2017. After that, patients in the intervention group proceeded with standard care, as needed. Patients in the control group attended standard care throughout the 12-month period.

Statistical analysis

First, a descriptive analysis was conducted to gain a picture of the baseline characteristics of each group. Second, Chi-square test and *t*-test were employed to compare the two groups. Finally, we used repeated-measure ANOVA to assess differences between the two groups for HbA1C levels and change in HbA1C levels, at baseline, 6 months and 12 months. The *P* value at the significance level was defined as 0.05. Intention-to-treat analysis was performed. Statistical analysis was conducted using SPSS (24.0.0.0).

Qualitative study

To identify the patient perspectives on SMAs, all patients who participated in the SMAs were invited to a semi-structured interview with a research assistant who had expertise in qualitative interviews. The interview questions' guide included benefits and barriers of the SMA approach and how patients felt they learned from the SMAs compared to standard care. In addition, the interview provided opportunity for participants to elaborate on suitability of SMAs for the community, including how culturally appropriate SMAs were for Innu patients' care.

The interviews lasted for approximately 10–30 min and took place at the patient's convenience in a non-clinical room at the community clinic. Although we had the option to conduct the interviews with an interpreter, all participants were willing and able to conduct the interviews in English. Interviews were audio recorded, later transcribed and analysed using thematic analysis.[10,11] In addition, responses were organised by interview question to provide a summary of patient responses per topic. A project research assistant with training in qualitative analysis performed the analysis and coded the themes and summary, and the research team discussed and reached consensus on the themes.

Ethics

This study was approved by, and all procedures were conducted in accordance with, the standards of the Newfoundland and Labrador Health Research Ethics Board and the Sheshatshiu Innu First Nation, and adhered to the principles of the World Medical Association Declaration of Helsinki on Ethical Principles for Medical Research Involving Humans, as well as the Provisions of Chapter 9 of the Tri-Council Research Policy Statement: 'Ethical Conduct for Research Involving Humans; Research Involving the First Nations, Inuit and Métis Peoples of Canada'.

Table 2: Baseline characteristics of the study groups

	SMA (*n*=13)	Control (*n*=10)	*P*
Age, mean±SD	51.15±9.10	48±14.47	0.5
Female, *n* (%)	8 (62)	5 (50)	0.6
HbA1C, mean±SD	6.7±1.32	7.26±1.18	0.55
HbA1C >7.5, *n* (%)	6 (46.2)	8 (80)	0.099

HbA1C: Haemoglobin A1C, SMAs: Shared medical appointments

RESULTS

Twenty-seven patients in the community were deemed eligible. Of these, two declined participation, one became pregnant and one passed the age of 65 years in the time between consent and randomisation; finally, a total of 23 patients were included for allocation. Additional informed consent was gained at a later date for the participation in interviews.

Effects on haemoglobin A1C

Of the 23 patients who participated in the study, 13 were randomised in the intervention group and 10 in the control group. Figure 1 shows details on the enrolment and randomisation process.

The mean age of the intervention group was 51.15 (±9.10) years and the mean age of the control group was 48. 62 (±14.47) years. Approximately 62% of the intervention group was female, while 50% of the control group was female. Table 2 shows no significant differences in the characteristics of the two groups in terms of sex or age. At baseline, there was no significant difference found between mean HbA1C levels of the control and intervention groups (6.7 ± 1.32 vs. 7.26 ± 1.8) [Table 4]. One patient in the control group (n = 10) and one in the intervention group (n = 13) died during the study period. Patients who died were still included in statistical analysis. There was no significant difference in the number of patients who died or the number of patients who had haemodialysis between the control and the intervention groups during the study. Two of the 13 patients in the intervention group did not attend any of the 6 SMAs. Those patients were still included in the analysis [Table 3].

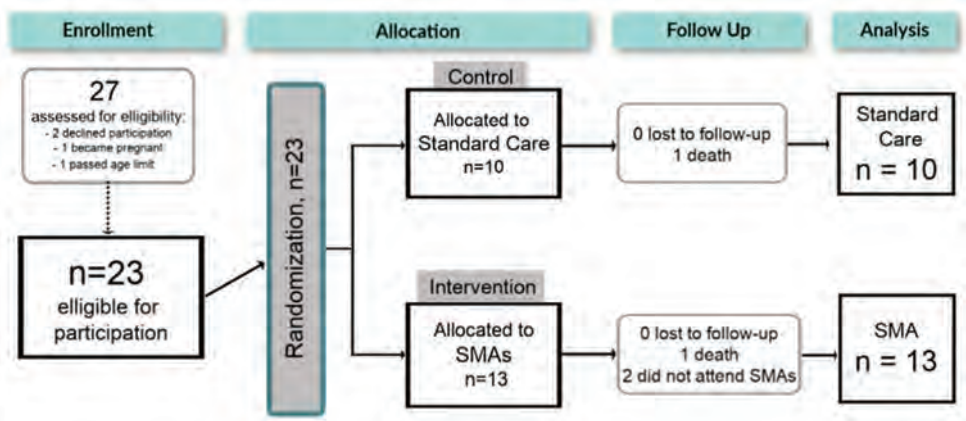

Figure 1: Flow diagram

Table 3: Clinical characteristics of the study groups

	SMA (n=13)	Control (n=10)	P
HbA1C at target level (≤7.5) at 6 months, n (%)	6 (46.2%)	5 (50%)	0.855
HbA1C at target level (≤7.5) at 12 months, n (%)	5 (38.5%)	4 (40 %)	0.940
Mortality, n (%)	1 (7.6%)	1 (10%)	0.846
Haemodialysis, n (%)	3 (23%)	3 (20%)	0.86

HbA1C: Haemoglobin A1C, SMAs: Shared medical appointments

Table 4: Changes in haemoglobin A1C during the study period between shared medical appointments and control groups

	SMA (n=13)	Control (n=10)	P
HbA1C, baseline	6.7 (1.32)	7.26 (1.18)	0.55
HbA1C after 6 months, mean±SD	7.41 (1.38)	6.92 (1.47)	0.42
HbA1C after 12 months, mean±SD	8.02 (2.21)	7.26 (1.65)	0.37
HbA1C change after 6 months, mean±SD	0.15 (1.31)	0.21 (1.46)	0.91
HbA1c change after 12 months, mean±SD	0.76 (2.12)	0.55 (1.62)	0.80

HbA1C: Haemoglobin A1C, SD: Standard deviation, SMAs: Shared medical appointments

The results of repeated-measure ANOVA demonstrated no significant difference between the mean of HbA1C levels, at baseline (6.7 vs. 7.26), after 6 months (6.9 vs. 7.4) or 12 months (7.26 vs. 8.02) within and between control and intervention groups, respectively [Table 4].

There were no observed harms or unintended effects due to the intervention observed within the study, nor were there any harms or unintended effects reported by patients.

Patient perspectives on shared medical appointments

We conducted 5 interviews in total. After the 5th interview, we had reached saturation but conducted 2 more to ensure no new themes would arise. We interviewed 4 females and 3 males aged between 30 and 65 years. Interviews revealed themes within 4 major categories related to learning benefits of SMAs, peer support benefits of SMAs, Innu culture and diabetes care and barriers with SMA care.

Learning benefits

The interviews revealed that patients felt they benefited from improved learning through the SMA format. We identified 3 themes under this category, summarised in Table 5.

Peer support benefits

Patients described an additional benefit of the SMAs; peer support. There were 2 main themes related to the category of peer support; they are summarised in Table 6.

Culturally appropriate care?

As demonstrated in Table 7, patients did not feel that SMAs were more or less culturally appropriate for the community than standard care. Patients viewed medical appointments as separate from and unrelated to Innu culture, meaning that one appointment type could not be more or less 'culturally appropriate' than another.

Table 5: Themes identified within learning benefits category

Theme	Explanation	Exemplary quote
Fun and dynamic learning style	The SMAs were described as being more dynamic and less one-sided than standard appointments, wherein the physician does most of the talking. Patients learned together and enjoyed being more engaged in the group setting	*'I enjoyed it…there's more back and forth'*
More holistic education	Patients described hearing from multiple practitioners and talking about a variety of topics related to living with diabetes	*'I like to see what the other (practitioners) are talking about… They talk about different things, like exercise or what to eat'*
Peer-to-peer learning	Some patients felt they learned as much, if not more, from fellow patients as they did from educational aspects of SMAs. Patients shared tips and advice for managing diabetes. This was described as more useful to them than the generalised medical advice, because it was coming from fellow Innu who shared their perspectives, experiences, location and challenges	*'I really liked the talking and listening to how other people are doing; to get the ideas (about how they manage their diabetes)'*

SMAs: Shared medical appointments

Table 6: Additional benefits identified by patients related to peer support

Theme	Explanation	Exemplary Quote
Shared experiences	Patients described valuing the opportunity to meet with peers and discuss living with diabetes with fellow community members who shared their experiences. They gained a sense of support and the chance to talk about the emotional aspects of diabetes	*'It becomes your whole life after a while... It's a whole new lifestyle you've got to adapt to…that's very hard sometimes. The group helped me a little bit more; how these guys – hearing how hard they found it, too. And to vent a little bit'*
Shared coping learning	In addition to gaining lifestyle advice from peers, patients described learning from one another about ways of coping with the illness, both in terms of their individual experiences and coping with the emotional aspects of diabetes in their community	*'For me I enjoyed [the SMAs] because I got opinions of how other people were dealing with their diabetes. And how I was doing, and I was able to let people know how I was dealing, doing it my way'*

Table 7: Themes identified within the category of 'Innu Culture and Diabetes Care'

Theme	Explanation	Exemplary quotes
Medical appointments as separate from community culture	SMAs were described as being no more or less culturally appropriate than other types of care; rather, all medical appointments are seen to be separate and unrelated to Innu culture	*(SMAs are) about the same; the one-on-one (appointments) and the group… Because people are still going to the doctor'*
Innu culture integral to healthy lifestyle and combatting diabetes	Although medical appointments were considered separate from culture, culture was described as very relevant to the treatment of diabetes, because of the role culture plays in the Innu lifestyle, and therefore the management of diabetes. Patients explained that when they lived a more traditional, Innu lifestyle, or when they 'lived their culture' more they were healthier and had less diabetes in the community	*'When people were eating a lot of traditional foods, and using traditional medicine, there was less diabetes...As people get away from that, now there's more diabetes here'*
Desire for Elders' Innu Knowledge for diabetes treatment	Elders with Innu cultural knowledge can help educate diabetes patients on healthy lifestyle. Patients expressed a desire to have elders or other knowledge holders involved in diabetes care through the SMAs	*'When I was helping the Elders…their sugars were really normal - because they are eating the traditional foods. But the younger ones - thirties, twenties and even fifties and forties, their sugars are high.'* *'Give (patients) more practical stuff...Try to figure out what we ate before sugar came around. Sugar and flour. Elders talk about their diet… If you could come back to that a bit more, it would help'*
Need for culturally-specific diabetes education in SMAs	SMAs were described as a good venue for 'bringing culture in'. While SMAs and medical appointments were described as separate from Innu Culture, patients felt the SMAs could allow for elders with cultural knowledge to help educate patients to improve their lifestyles and manage their diabetes. Locally-specific, Innu lifestyle knowledge is described as more useful to patients than generalised medical advice on healthy eating, etc.	*'It would be great to bring [Elders and cultural knowledge] in [to the shared medical appointments] - to have the traditional medicine and the western medicine too. The people can have both to help them out'*

SMAs: Shared medical appointments

However, patients were eager to discuss the ways in which culture itself was relevant to the treatment of diabetes in the community. Patients raised the topic of Innu culture being connected to lifestyle and therefore to the experience of diabetes in their community. Although the patients were neither asked directly about lifestyle, nor why they felt diabetes was a health issue for the community, 4 patients identified lifestyle issues within the community to be a major contributing factor for both the high prevalence of diabetes, and the difficulty community members have in managing their diabetes. Four themes were identified within the category of 'Culture and Diabetes Care' throughout the interviews. These are summarised in Table 7.

Barriers with shared medical appointments

Patients reported no significant barriers to partaking in or benefitting from SMAs. Each patient interviewed reported that their likelihood of attending SMAs and standard care appointments was the same. All patients (n = 7) indicated that they were comfortable with the group setting, including having their blood pressure checked in front of other patients, as well as discussing health issues with the group. Some patients mentioned that for certain questions, they would choose to speak to the physician privately, outside the SMA (n = 2). Patients did not report any major issues or concerns with the SMAs.

DISCUSSION

Interpretation and implications

The HbA1C of the intervention group did not worsen during the study at 6 or 12 months after the intervention, nor did it differ significantly from the glycaemic control of the control group. The groups also did not significantly differ in terms of numbers of patients who underwent haemodialysis or died

during the course of the study. This suggests that the SMA format may be offered without negatively impacting patient HbA1C outcomes. In addition, the no-show percentage was significantly lower among the SMA participants than those in the control group. Qualitative analysis revealed that there were benefits to the SMA approach; patients enjoyed the group learning and gained peer support. They also felt that SMAs were a useful service for the community. This research has also provided us with valuable insight from patients on their perspectives on diabetes care and the suggestion to find ways to incorporate local, Innu cultural and lifestyle knowledge into diabetes care and education.

We found no evidence indicating harmful effects or that patients experienced any substantial negative barriers or drawbacks due to the SMA format.

As with many published studies, the findings of our study are inconclusive as to whether or not patients benefit more from SMAs than standard care. In previous studies, the effect of SMAs on reducing HbA1C level is inconsistent. One meta-analysis of 26 studies found that group appointments contributed to significant reductions in HbA1C levels. [2] However, some studies have not found group or SMAs to lead to significant reductions in HbA1C.[12-17] The differences in findings among studies could be due to the variation in the duration, populations and delivery models of the studies.[2]

An additional positive aspect of the SMA model according to our clinical team was access to diabetic education and dietician services for larger groups of patients. Those services are difficult to secure in the region of study. The SMA provided access to these services for a group of patients in each session; therefore, it allowed these practitioners to reach more patients and develop more relationships in this community than they otherwise would.

Although the study was not designed as a non-inferiority trial, the results could suggest that SMAs are a safe way of delivering diabetes care to larger groups of patients, with some added benefits. Moreover, the 'one-stop shop' model of care[3] provided in SMAs is likely an efficient and useful way of delivering multiple diabetic care services to Innu patients with well-controlled diabetes, which ultimately improves access to diabetes care for these patients.

Strengths and limitations

Only a few RCTs have investigated the impacts of shared medical appointments in rural and remote settings. To our knowledge, this is the first study in an indigenous community setting.

This study was conducted in remote and low population areas and was limited to 23 patients. One may question the effect of the small sample size and the short duration of the study on statistical associations. There was a low number of patients with a well-controlled HbA1C level ≤7.5% in the community, resulting in a small available sample. As this was a trial project for the community, we also had limited resources to deliver the SMAs and measure outcomes over a longer period. Findings of a meta-regression analysis showed that the duration of treatment in SMAs had direct association with HbA1C values. Patients who were treated for longer periods had better HbA1C outcomes, indicating that the number of months in SMA care may have a more significant impact than the frequency of the appointments.[2]

A RCT with a larger sample size and longer duration could provide better knowledge as to the effects of a SMA care model on HbA1C levels for Innu patients with well-controlled diabetes. This could also potentially provide information on the SMAs impact in both the short and long terms.

CONCLUSIONS

Our Innu patients identified SMAs as a suitable and beneficial approach for themselves and for their community. The community leaders have stated that they would like the SMAs to continue.[18] This study is specific to Sheshatshiu; therefore, the findings may not be applicable to other communities. However, the approach may be beneficial for other rural or indigenous communities in addressing complex primary care needs where resources are limited.

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SHORT COMMUNICATION

Choosing Wisely Canada: Rural medicine list of recommendations

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RURAL MEDICINE

Five Things Clinicians and Patients Should Question by Society of Rural Physicians of Canada. Last updated: July 2020.

1. Do not send a patient for a specialist visit that requires several hours of transport if the visit can be done virtually or by a local physician

Due to the location of many rural communities, it is very challenging for rural patients to easily access many specialist physicians who typically practise in more urban centres. Travel away from a community removes patients from their support systems, induces financial burdens and can create safety concerns for patients, especially in the winter months. Telemedicine provides a cost-effective solution to improve access to care closer to home. Thus, if the option is available, and in consultation with the patient, physicians should consider utilising telemedicine.

Another option is to have the out-of-town specialist communicate with the local physician who can provide follow-up care. Local physicians should receive explicit detailed instructions as to what issues need to be addressed and the appropriate time frame for follow-up.

2. Do not send a low-risk patient to a distant centre for a screening test (i.e. mammography) if the risk of injury from transportation to the centre is higher than the benefit of the test and if there are other screening options available in the local community (i.e. mobile mammography, mobile ophthalmology, faecal immunochemical test)

In 2018, for every billion kilometres travelled by a motor vehicle in Canada, there were 4.9 fatalities and 390 total injuries (including 24.2 serious injuries). The risk of travel in rural communities is greater than urban areas. Despite rural areas accounting for only 18% of the population, 54% of fatal motor vehicle collisions in Canada occur on rural roads. The danger of rural roads has been attributed to multiple factors including greater distances to medical facilities, inclement weather, higher speed limits, animal crossings, poor lighting and poor maintenance.

Screening is important for disease prevention. It is important to weigh the risk of transportation with the

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benefit of the test, patient-specific risk factors and patient preferences. Arranging screening tests when the patient is already visiting the centre for another reason is efficient.

3. Do not transfer a palliative patient to a facility far from their friends and family without considering if their goals of care can be achieved locally

Advanced care planning is an important part of primary care to establish individual patient's goals of care. This is especially true for rural patients who may need to be transferred to an alternate community for care.

Studies have shown that rural patients prefer to die in their home communities. It is important to consider the patient's goals when contemplating sending them away from the community for medical treatment at the end of life. If the patient is transferred to an alternate community, ensure an updated, written advanced directive accompanies them to the receiving community.

4. Do not call in staff for an investigation (i.e. blood test, imaging and operative procedures) at off-service hours unless it is likely to change management

Health personnel are valuable resources in rural communities. It is important that provider well-being is balanced with optimal patient care, especially where human resources are limited.

5. Do not transfer a patient by ambulance with skilled personnel if the patient is unlikely to require medical intervention en route

Health personnel are valuable resources in rural communities. Sending a nurse or physician *en route* to an urban centre can leave a rural hospital without medical support for significant periods of time. Consider the evidence when deciding whether a patient needs to be accompanied during transport. Consider calling the receiving hospital to mutually agree on the need for skilled personnel during urgent or emergent transport.

HOW THE LIST WAS CREATED

The Society of Rural Physicians of Canada (SRPC) established its Choosing Wisely Canada top five recommendations through collaboration with its internal members and with medical students of the Students and Trainees Advocating for Resource Stewardship program. The list started with brainstorming overuse topics in rural medicine based on the experiences of rural practitioners across Canada. Over several months, the list was refined based on the feedback received from SRPC members, a peer-review process and a review of relevant scholarly research. A preliminary list was shared at the SRPC Annual General Meeting in May 2020, from which a final list was established. Globally, this is the only known rural-focussed Choosing Wisely recommendation list.

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ABOUT THE SOCIETY OF RURAL PHYSICIANS OF CANADA

The Society of Rural Physicians of Canada (SRPC) is the national voice of Canadian rural physicians. Founded in 1992, the SRPC's mission is championing rural generalist medical care through education, collaboration, advocacy and research.

On behalf of its members and the Canadian public, SRPC performs a wide variety of functions, such as developing and advocating health delivery mechanisms, supporting rural doctors and communities in crisis, promoting and delivering continuing rural medical education, encouraging and facilitating research into rural health issues and fostering communication among rural physicians and other groups with an interest in rural healthcare.

The SRPC is a voluntary professional organisation with over 2200 members representing rural physicians and allied healthcare workers across the country.

ABOUT CHOOSING WISELY CANADA

Choosing Wisely Canada is the national voice for reducing unnecessary tests and treatments in health care. One of its important functions is to help clinicians and patients engage in conversations that lead to smart and effective care choices.

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Country Cardiograms: Submit a Case!

Have you encountered a challenging ECG lately?
In most issues of the CJRM, we present an ECG and pose a few questions.
On another page, we discuss the case and provide answers to the questions.

Please submit cases, including a copy of the ECG to Suzanne Kingsmill,
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PROCEDURE ARTICLE

The occasional anorectal abscess

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INTRODUCTION

Anorectal abscesses are a common infection that may present to the rural physician in the office or emergency room. The incidence of this condition has been estimated to be between 68,000 and 96,000 per year in the United States[1] for a rate of 20.8–29.3/100,000 person-years. It is more than twice as common in men as in women and occurs most often in adults between the ages of 20 and 60.[2-4] It also more common in people with diabetes, inflammatory bowel disease and immunosuppresion.[4]

ANATOMY

Anorectal abscesses arise when an anal gland's draining duct becomes obstructed, leading to stasis, bacterial proliferation and eventual abscess formation.[5] This causes constant throbbing pain, erythema and swelling.[2,6,7] Anorectal abscesses can be subdivided into four main categories.[8] The most common subtype, the perianal abscess, occurs when a pocket of pus tracks downwards towards the anal epithelium and presents with pain and swelling near the opening of the anus.[1,2,6] The second most common anorectal abscess is the ischiorectal abscess, which spreads laterally through the external anal sphincter into the ischiorectal fossa and appears as a swelling on the buttocks.[1,2,6] Less commonly, the pocket can grow between the internal and external sphincters and present as a severely painful swelling, palpable on digital rectal examination and known as an intersphincteric abscess.[1,2,6] Finally, an anorectal abscess may, rarely, extend superiorly and form a supralevator abscess that can present non-specifically with fever, chills, tenesmus or pelvic and rectal pain.[1,7,9] Patients suspected of having an intersphincteric or supralevator abscess should have their condition discussed with a general surgeon. The four types of anorectal abscesses are: supralevator, intersphincteric, perianal, ischiorectal [Figure 1].

When to image?

The diagnosis of anorectal abscess is primarily based on patient history and physical examination. The digital rectal examination should be included if the patient consents. Anoscopy may be helpful in making the diagnosis. Imaging is not routinely recommended for perianal or ischiorectal abscesses.[10,11] Anaesthesia or sedation may be necessary for examination limited by pain.[11,12]

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Imaging may be beneficial in the following cases:

- History of Crohn's disease[11,13,14]
- Suspected supralevator abscess[9,15,16]
- Suspected intersphincteric abscess[12]

If imaging is conducted, the most commonly used modalities are computed tomography and magnetic resonance imaging, however, they are often not available in the rural or remote environment.[11] Both endoanal and transperineal ultrasound are also acceptable modalities for visualising anorectal abscesses, but ultrasonographers with these skills can be difficult to find. [11] Point-of-care transperineal ultrasound has recently begun to be used in characterising anorectal abscesses and may be beneficial if the physician is familiar with this modality.[17]

When to refer?

Physicians in the office or emergency department may drain patients with perianal or ischiorectal abscesses, but more complex abscesses, such as intersphincteric and supralevator abscesses, should be discussed with surgeons for evaluation and possible management in the operating room.[1,12] Signs of more complex abscesses include no visible external manifestations despite the patient's report of severe pain, palpable extremely painful swelling present on digital rectal examination and the patient reporting rectal bleeding, tenesmus or severe rectal pain with urinary symptoms, including dysuria and retention.[18,19]

Red flags in perianal and ischiorectal abscesses that also necessitate discussion with general surgery:

- Horseshoe abscess: Horseshoe abscesses form when the obstructed gland is located midsagittally.[6] The anococcygeal body in this area prevents the abscess from growing inferiorly, so it tracks bilaterally into both ischiorectal fossae.[6] These abscesses require more complex management with drains, so abscesses which appear to track around the anus should be managed operatively[1]
- Crohn's disease: Crohn's disease-associated abscesses may lead to recurrent perianal disease.[6] Surgical consultation is, therefore, recommended for patients with a history of Crohn's disease presenting with anorectal abscess[14]

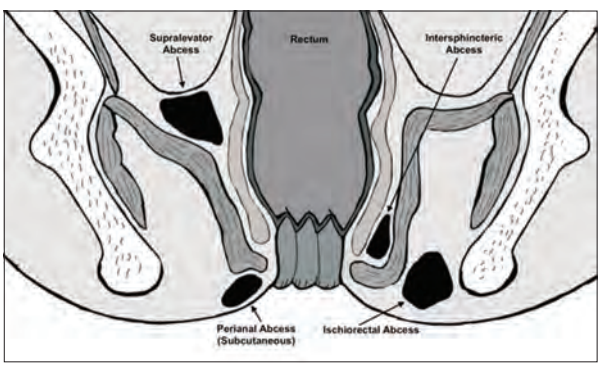

Figure 1: The anatomic locations of perianal, ischiorectal, intersphincteric and supralevator abscesses. [8]

EQUIPMENT [FIGURE 2]

- Gloves and drapes
- Eye protection
- 10% povidone-iodine or 4% chlorhexidine solution
- Lidocaine (1%–2%) or bupivacaine (0.5%)
- 3–10 mL syringe and needle
- Scalpel handle and #11 blade
- 30–60 mL syringe
- Sterile water or normal saline
- 4 × 4 inch gauze (lots of it)
- Culture swab (optional)
- Dressing and tape.

PROCEDURE

1. Place the patient in a position that allows for full visualisation of the area to be incised while maintaining adequate comfort[20]
2. Inspect the abscess for red flags for referral, including a high suspicion of supralevator, intersphincteric or horseshoe abscess or perianal Crohn's disease

Figure 2: Equipment needed to drain an anorectal abscess.

3. If a linear ultrasound probe is available and if trained in performing trans perianal ultrasonography, evaluate and characterise the abscess in terms of size, depth and presence of loculations[17]
4. Disinfect the surface of the abscess with povidone-iodine or chlorhexidine solution[20]
5. If using local anaesthesia, inject 1%–2% lidocaine or 0.5% bupivacaine in the skin around and over the abscess. [20] A regional block, procedural sedation and/or parenteral analgesia can be added if the physician is comfortable with these approaches and the patient is anxious, pain precludes adequate examination or drainage is expected to be lengthy or especially painful[11]
6. Incision and drainage:

a. Once anaesthesia has taken effect, make two curved incisions to remove an oval of skin overlying the abscess. [10] The incisions should be as close to the anal verge (the transition from non-keratinised epithelium to keratinised epithelium with hair) as possible in order to shorten the length of any subsequent fistula[11]
b. Express the abscess to remove as much pus as possible. It may be helpful to have the patient assist in this process in order to manage pain. It may also be necessary to break up loculations with forceps in some cases, but care must be taken to prevent injury to the sphincter or the pudendal nerve[6]
c. Take cultures if desired (see step 7 below)
d. Irrigate the abscess cavity with syringe and sterile water or saline (optional)
e. Cover the wound with sterile bandages. Packing is unnecessary and may increase pain or delay healing.[11,21-23]

7. It may be helpful to culture the pus, though this is debated. Culture is explicitly recommended for recurrent infection and non-healing wounds.[11] Routine culture without these indications may identify methicillin-resistant *Staphylococcus aureus* (MRSA). Alternatively, in areas with high levels of community-acquired MRSA, if a patient also has cellulitis or other indications for antibiotic coverage, choosing an antibiotic that targets MRSA and forgoing the culture may be the best choice
8. The prescription of antibiotics for perineal abscess is controversial. Based on several studies showing a lack of change in patient outcomes with antibiotics, the American Society of Colon and Rectal Surgeons recommends avoiding antibiotics in the absence of indications such as cellulitis, systemic infection, immunosuppression, prosthetic heart valves, congenital heart disease, heart disease and a history of endocarditis.[11] By contrast, a recent meta-analysis showed that antibiotics significantly reduced the risk of subsequent fistula formation, but that more investigation was needed to clarify the appropriate type, dose and duration of antibiotic therapy.[24] It, therefore, currently remains up to the physician's judgement whether, and which, antibiotics to use.

POST-PROCEDURE MANAGEMENT

Patients should be advised to use warm soaks or sitz baths twice daily and to rinse the anal area regularly with tap water.[10,22,25] Physicians or nursing staff should instruct patients on how to reapply dressings after each bath. To reduce discomfort, fibre laxatives and oral analgesics should also be recommended.[25] Finally, patients should be advised to seek care if erythema worsens or fever or chills develop. Patients should return for follow-up in 2–4 days.[25]

COMPLICATIONS

Potential complication during incision and drainage include bleeding, infection and damage to surrounding structures, namely the sphincter or the pudendal nerve.[6] Inadequate drainage of the abscess may allow it to redevelop, requiring repeat incision and drainage.[26] In addition, there is approximately a 16% risk of fistula which may present as a new or persistent external opening or recurrent pain.[27] This risk can be minimised by ensuring that the abscess is adequately drained.[11] If the abscess is not promptly treated, severe sequalae can follow, including perianal sepsis and necrotising soft-tissue infection around the anus.[26] In addition, an anorectal abscess may occasionally be the first symptom of systemic conditions such as acute leukaemia or Crohn's disease, so additional workup may be indicated if other symptoms are present. [28,29]

CONCLUSION

Simple perianal and ischiorectal abscesses can be drained in the office or emergency room setting.

Draining perineal abscesses brings patients great relief and physicians a sense of satisfaction. Before undertaking this procedure, however, it is important to ensure that the abscess is amenable to drainage and has no red flags such as concurrent Crohn's disease or horseshoe abscess, which may necessitate surgical referral.

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Case Report

A buprenorphine–naloxone induction in the North

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INTRODUCTION

Canada's opioid crisis is an ongoing public health emergency, in which rural general practitioners have an important role to play by providing addictions care to our rural and remote populations. Since 2016, 13,900 deaths in Canada have been attributed to opioids.[1] Although the magnitude of the crisis is centred in urban areas, remote regions of Canada are not spared from opioid-related harm. National practice guidelines for opioid use disorder were published in 2018, which recommended buprenorphine–naloxone as a first-line treatment.[2] Buprenorphine–naloxone is particularly ideal for a rural generalist's practice, as it has a superior safety profile to methadone, which allows for more flexible dosing and dispensing.[2,3] Clinical tools are available to support prescribing buprenorphine–naloxone in primary care, including a recent Canadian guideline.[4] Although buprenorphine–naloxone is a safe and effective first-line treatment for opioid use disorder, there are unique logistical factors that must be considered for buprenorphine–naloxone induction and maintenance in remote settings in Canada. Our case details the first-known buprenorphine–naloxone induction at a small regional centre in the Northwest Territories. It illustrates the impact of remote geography on clinical decisions, ensuring adequate medication supply, and the importance of engaging pharmacy and nursing colleagues in delivering addictions care.

CASE REPORT

A 50-year-old female patient presented to a remote nursing station for anxiety follow-up during a physician's community visit. Past medical history included acute hepatitis secondary to acetaminophen toxicity, smoking, anxiety and remote breast cancer. During this visit, she disclosed and requested help with her 'Tylenol #3 addiction'. The patient reported using 20–40 tablets daily and spent most of her time acquiring tablets from other community members and purchasing them online. She denied other substance use or intravenous (IV) drug use. She was diagnosed with opioid use disorder, and options for treatment were discussed. The patient agreed to start buprenorphine–naloxone.

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As this patient was from a small northern community, with all medications dispensed by nursing station nurses who were unfamiliar with buprenorphine, a short stay at the regional hospital (2 h by road) was planned to facilitate a buprenorphine–naloxone induction.

As planned the patient presented to the regional hospital emergency department in moderate opiate withdrawal, 24 h since her last dose of codeine. Her Clinical Opiate Withdrawal Score (COWS) was 14, and she received an initial 4-mg dose of buprenorphine–naloxone. There were no signs of precipitated withdrawal. Two hours later, her COWS was 12 and she received another 4 mg. After another 2 h, her COWS was still 12 and she received a third dose of 4 mg, for a total of 12 mg, the maximum recommended dose for day 1.[4] Overnight, she experienced ongoing anxiety and difficulty sleeping and was given clonidine 0.1 mg and trazodone 50 mg to help manage her ongoing withdrawal symptoms.

On day 2, the patient reported ongoing cravings and so her daily dose was increased to 16 mg. On day 3, she felt better and had no withdrawal symptoms, and was stabilised on a maintenance dose of 16 mg daily. We communicated her discharge plan directly with the nursing station staff, provided brief education about the importance of daily dispensing and spoke with the regional pharmacy to ensure an adequate buprenorphine–naloxone supply at the nursing station. The patient received daily witnessed dosing at the nursing station for the first 4 weeks. This was transitioned to 5 days of witnessed dosing for 8 weeks, and then 3 days of witnessed dosing with 4 days of carries (e.g., carry-home supply) per week. Point-of-care urine drug testing was not available to guide real-time clinical decisions, however urine samples were sent to a provincial laboratory for drug testing.

Over 1 year later, the patient remains stable on a dose of 16 mg buprenorphine–naloxone daily. Her liver function has improved, and she is interested in becoming a community advocate for opioid awareness.

DISCUSSION

Our case demonstrates unique logistical factors that must be considered when initiating buprenorphine–naloxone in a remote area of Canada, the most significant of which relate to medication access. Even if there is a pharmacy in the community, buprenorphine–naloxone may not be regularly stocked, and business hours may be limited. Nurses at remote health centres may also be unfamiliar with opioid use disorder management. In our case, there was no pharmacy in the community and all medications were dispensed by the nursing station during limited hours.

We also needed to take an adapted approach to maintenance therapy. Significant nursing buy-in is required for ongoing maintenance therapy as nursing stations are usually closed on the weekends. Our patient lived a 1-h walk away from the health centre and did not drive. We increased the number of weekly carries faster than the usual recommendations because it was not feasible to use a strict daily dispensing schedule given the nursing and patient limitations. Due to the excellent safety profile of buprenorphine, providers could consider even more liberal dispensing if a patient's remote location prohibits regular pharmacy or clinic attendance.

To illustrate a failure to consider logistical factors, we provide another case example. A 40-year-old male was started on buprenorphine–naloxone in jail and was stable on a maintenance dose for several months. After being released, he arrived home to his remote community by plane on a Friday afternoon. He had received his last dose of buprenorphine–naloxone on Thursday in jail. Unfortunately, arrangements were not made to ensure that buprenorphine would be available in his home community. Because the next pharmacy shipment via plane was not until the following Wednesday (a 6-day gap in supply), he was prescribed morphine and clonidine in the interim to manage his withdrawal symptoms. This was a particularly high-risk situation given the significant risk of overdose upon release from incarceration,[5] and may have been prevented through improved discharge planning.

CONCLUSION

Overall, we hope to have highlighted some important considerations for providing opioid use disorder treatment with buprenorphine–naloxone in remote settings in Canada. We stress the importance of communication with allied

healthcare providers, and to ensure a reliable supply and dispensing of medication for patients, which is even more critical to consider in the context of COVID-19. As rural healthcare providers become more familiar with buprenorphine–naloxone, we anticipate increased efficiency and streamlined local processes for managing opioid use disorder in remote communities. Further opportunities to increase access to addictions care may arise with newer products such as long-acting injectable or implantable buprenorphine as it may minimise issues with medication supply.[6] By considering these logistical factors, we can make a significant difference to our remote communities by prescribing life-saving, effective and safe treatment for patients with opioid use disorder.

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A rural community hospital's response to COVID-19

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INTRODUCTION

The COVID-19 pandemic has required unique responses by rural Canadian hospitals. The initial approach taken at Lennox and Addington County General Hospital (LACGH) is presented as one response. Located in Greater Napanee, Ontario, LACGH has a catchment of 43,000 people, and operates under primary care leadership. Early planning and implementation in preparation for COVID-19 led to restructuring and resource optimisation.

ADMINISTRATIVE COORDINATION

A strong administrative infrastructure and collaborative teamwork were critical to respond to the suddenly changing environment at the onset of the COVID-19 pandemic:

- An incident command team was established, co-chaired by the chief of staff and chief nursing officer and included administrative staff and frontline healthcare workers. In the early stages, the team held daily roundtable meetings to encourage idea sharing and implement change rapidly with decisive leadership
- Workflow changes were determined collaboratively with staff
- Partnerships were developed with local Public Health
- Proactive education included: training on personal protective equipment (PPE) and infection control practices, simulation of patient-care scenarios and training on aerosol generating medical procedures (AGMPs) in the era of COVID-19.

ACTIVE AND PASSIVE SCREENING

LACGH maintained essential medical services while limiting the community's exposure in the hospital, following Ministry of Health and Public Health Ontario recommendations:[1,2]

- All doorways, except through the Emergency Department (ED), were closed to the public
- Additional infection prevention and control (IPAC) measures were implemented at the levels of engineering, administrative control and PPE
- Billboards were posted at the entrance and in the parking lot reading, "STOP. Proceed inside only if you are experiencing a serious medical emergency. Otherwise, please call (phone number) to speak to one of our healthcare professionals now."

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COVID-19 ASSESSMENT CENTRE

LACGH established a COVID-19 Assessment Centre (CAC) by dividing the ED into two zones – one functioning as a typical ED and one as the CAC. The CAC is a 6-bed unit, run by family physicians. Before entering the hospital, patients were screened by telephone for COVID-19 symptoms and high-risk exposures. If patients screened positive, they were directed to a CAC nurse for telephone-based triage, and to an ED nurse if they screened negative. Even patients whose chief complaint was neither infectious nor respiratory, but had risk factors, were seen in the CAC. For example, a recently returned traveller with a fractured wrist was assessed, imaged and casted in the CAC. The CAC also saw numerous respiratory complaints unrelated to COVID-19. The triage process was intended to direct potential COVID-19 cases to the CAC with high sensitivity, but low specificity.

Subsequent patient flow was optimised to limit viral spread:

- CAC patients spoke with a physician by telephone who would either: (1) provide telephone-based advice, (2) arrange drive-through COVID-19 testing, or (3) arrange assessment inside the CAC
- For drive-through testing, vehicles lined up in the ambulance bay during assigned time slots and patients were swabbed through their vehicles' windows. The assessors could don PPE at the beginning of the line and would only need to change their gloves between swabs
- Patients requiring assessment in the CAC waited outside until a room was ready
- Cardiorespiratory monitoring, emergency physician consultation and a dedicated x-ray machine were available.

From March to May 2020, the CAC saw an average of 21 patients assessed per day and 13 patients swabbed per day [Figure 1]. The CAC saw a surge in late June due to an outbreak in a neighbouring county. In those first several months, 15 positive cases of COVID-19 were detected in Lennox and Addington County. One LACGH staff member tested positive early on in the pandemic, due to travel, but this was quickly contained and there have been no further cases among staff. Several positive cases have been seen and treated in the CAC, but none have required supplemental oxygen and none have required admission or transfer to a tertiary centre.

PERSONAL PROTECTIVE EQUIPMENT

Due to anticipated shortages, adaptations to the use of PPE were necessary:

- For patients who screened negative, standard precautions were used. For patients who screened positive, all clinical staff used level 2 surgical mask, face shield, gown and gloves
- Shortages of PPE were a constant threat, with demand across the world increasing. Exploring new supply chains and prioritising reusable PPE early on relieved some of this stress
- Reusable surgical gowns were used to maintain supplies. Rather than sending these out to the regional laundry service typically used by the hospital, these gowns were washed in-house so that access to an adequate supply of gowns could be more tightly controlled
- The use of N95 and reusable masks was reserved for aerosol-generating medical procedures (intubation and select surgical procedures)
- Early on, the hospital purchased a P100 reusable mask for every clinical staff and they were trained on cleaning them between uses in specified decontamination areas in the hospital. When governing bodies had suggested N95 masks be sterilised and reused, the Incident Command Team arranged this with the nearby

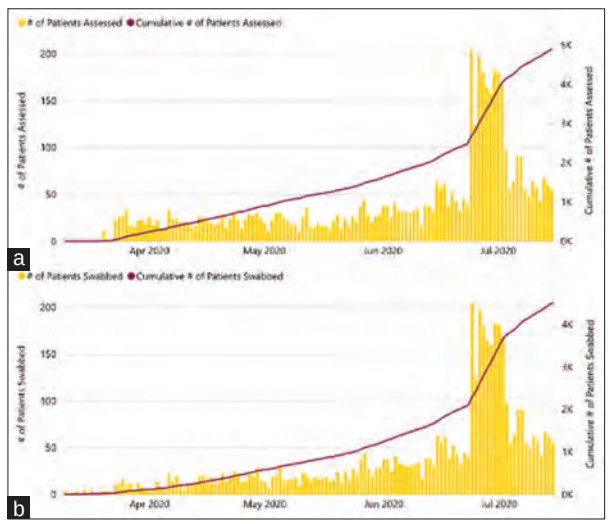

Figure 1: Patients assessed (a) and tested (b) each day at Lennox and Addington County General Hospital COVID-19 Assessment Centre from March 10 to July 15

tertiary care centre. However, with improvements in the supply chain and a low number of COVID-19 cases, utilising these systems has not yet been necessary. With these extra precautions in place, the hospital remains ready for a potential surge of patients requiring invasive critical care.

EMERGENCY MEDICINE AND RESUSCITATION

The ED was also subject to many changes:

- Registration, triage and care were conducted by telephone where possible
- Screening protocols were established for patients arriving by ambulance in collaboration with paramedics
- The negative pressure room was fitted as a resuscitation room
- A Protected Code Blue Policy was enacted for resuscitations and intubations. A dedicated Code Blue team was established for possible COVID-19 cases, and the team participated in regular simulations and huddles
- ED staff huddled at shift changes to review resuscitation and infection control principles
- IPAC measures were incorporated into all AGMP.[3]

MANAGEMENT OF THE INPATIENT WARD

In-patient capacity was increased to make room for COVID-19 admissions:

- Patient discharges were expedited where possible, and transfers to long-term care (LTC) were facilitated by provincial changes allowing crisis placement from hospital. Other alternate level of care patients were transferred to the convalescent care unit
- The acute care unit was divided into one unit for regular in-patients and a locked COVID-19 unit with 7 isolation rooms. Staff were stationed near the unit's entrance to prevent people from entering unnecessarily and to observe PPE use
- Patients admitted with COVID-19 risk factors were tested and kept in the designated unit until COVID was ruled out clinically and with diagnostic testing, at which point they were moved to the regular unit
- Negative pressure rooms were reserved for AGMPs where possible.

New patient-care resources were developed:

- Guidance on PPE, IPAC and N95 usage were derived from best practices[3]
- LACGH's Internal Medicine specialist developed guidelines on medical management and enteral feeding for COVID-19 patients and collaborated with respiratory therapy on guidance for oxygen delivery options
- Evidence-based order sets for COVID-19 patients were created
- Pharmacists disseminated advice on medication stewardship to conserve drug supplies at risk of depletion in a COVID-19 surge
- Processes to optimise supplies were introduced. For example, a process to sterilise inhalers was developed since nebulisers were avoided given aerosolisation risk.

OUTPATIENT SUPPORTS AND LONG-TERM CARE

During the COVID-19 pandemic, LACGH used an electronic platform for home monitoring of recently discharged patients which was already in use for diabetes care and COPD pathways. The system integrated video-conference technology and electronic recording of vital signs. During the pandemic, it allowed for virtual assessment of ED patients when appropriate and helped with short-term monitoring of patients discharged from the hospital.

Early partnerships with LTC facilitated symptomatic and new asymptomatic testing of staff and residents. As well, patient-centred processes were developed that allowed additional medical procedures to occur within the LTC facility and thereby minimise residents' exposure to the hospital.[4]

CONCLUSION

Preparation for COVID-19 at LACGH was proactive and significantly changed hospital operations. The principles of early planning, multidisciplinary collaboration and protection of caregivers are critical for all healthcare facilities as they prepare and respond to the current and future pandemics. Since the development of the initial response described here, the CAC

at LACGH has undergone numerous changes. Throughout the summer months of 2020, it moved locations and mainly facilitated drive-through COVID-19 testing of those with mild symptoms or potential exposures. By the end of 2020, it will have entered a third iteration, with significant changes to staffing, patient flow and scope of assessments. This underscores the essential nature of feedback mechanisms to determine what is working, and to be able to respond to the community's needs as new outbreaks emerge.

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Letter to Editor

Challenges in managing febrile patients in a rural emergency room during the COVID-19 pandemic

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Dear Editor,

In a recent letter, Schiller and Blau addressed challenges in clinical decision-making amidst the COVID-19 pandemic.[1] The atypical presentation of diseases such as pneumonia certainly adds to the already-difficult problems of diagnostic ambiguities in testing limited environments. This concern can be more broadly applied to all febrile diseases that may or may not be associated with respiratory diseases, especially in hospitals serving medically underserved areas. In such hospitals, there is often a lack of appropriate medical equipment or personnel necessary to properly diagnose and treat a febrile patient. During the current pandemic, it has become necessary to triage, identify and isolate all questionable febrile patients and manage them in a separate, enclosed area until they are tested negative for the coronavirus.[2] However, in a hospital which lacks capabilities, it is nearly impossible to provide quality care in a well-isolated, enclosed setting.

In the case of Sungju Moogang Hospital, a 55-bed rural hospital located in Sungju, South Korea, the emergency room has experienced multiple cases of febrile patients who had to be referred to tertiary medical centres due to insufficient means of appropriate testing and management. One such adolescent patient informed us that her fever of 40°C was likely due to another flare of haemophagocytic lymphohistiocytosis, which she had been diagnosed with several years prior. The parents requested a course of immunosuppressants as had been done at a university hospital, but we could not proceed any further because she did not bring any medical certificates and had no pertinent information in our hospital records. In addition, she was a candidate for COVID-19 screening because of a recent travel history, but we did not have the rapid testing equipment at hand. We decided to refer her to a tertiary medical centre where she received the diagnosis and was later informed that she subsequently underwent testing for COVID-19 and received appropriate immunosuppressant therapy to control her symptoms. In other cases where we were able to identify a patient's source of fever as more simple causes such as enterocolitis

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or pyelonephritis, we provided appropriate treatment within our emergency room.

Studies have found that viral respiratory infections such as the coronavirus are associated with many other diseases, many of which are immune related.[3,4] As such, it is imperative that frontline medical workers not get caught up with Bayesian thinking and properly assess all febrile patients for potentially less common aetiologies. The challenges faced by hospitals serving underserved populations are inarguably greater during this pandemic, so great precaution should be taken to avoid missed or late diagnosis for potentially more serious conditions.

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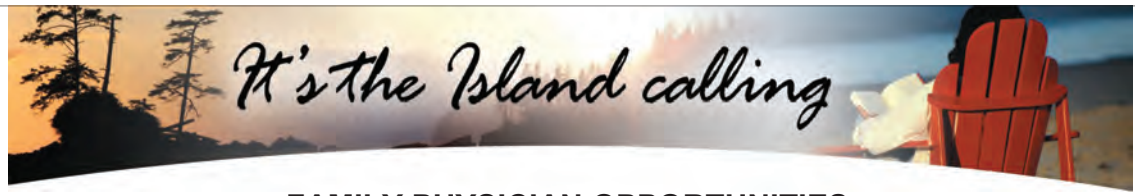

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