Rapid Review

NORTH AMERICAN OBSERVATORY on Health Systems and Policies

Strengthening Home and Community Care Services for Rural Populations

A Rapid Review Prepared for the Yukon Government

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Table of Contents

Introduction and Background

Given its vast geographical distribution, Canada faces unique challenges when it comes to health system planning (Martin et al., 2018). In 2016, approximately 20% of the population lived in rural areas, with a disproportionate share of rural residents in the maritime provinces and northern territories (Government of Canada, 2017).

In attempting to achieve population health, rural communities face a number of unique barriers. These barriers include, but are not limited to, workforce shortages, limited training opportunities for healthcare professionals, and limited access to specialist services (Nielsen, D'Agostino, & Gregory, 2017). In comparison to urban settings, rural settings have less than half the number of nurses, and approximately one third the number of physicians per 1,000 seniors (Ariste, 2018). Canada faces a national shortage of physicians, which is disproportionate to rural communities and more pronounced than the OECD average (Ariste, 2018; Fleming & Sinnot, 2018). These rural health challenges are also particularly apparent among Indigenous populations, and represent a dramatic source of inequity in the country (Brown, 2018).

In light of these challenges, there are growing efforts in Canada and internationally to lessen the urban-rural health system divide. In recent years, Canada has seen a proliferation of innovative health care models and interventions to address rural health challenges, including the emergence of high-performing regional networks for specialist care, advances in telemedicine, and new curricula and legislation to broaden health professionals' scopes of practice (Martin et al., 2018). Attention has also been drawn to locally driven health care innovations that seek to improve collaboration, access to information and information sharing, and access to healthcare (The Ontario Rural Council, 2009).

Despite these emerging innovations, there remains limited evidence to suggest what features of these innovations may improve health outcomes and experiences. This report aims to describe the home and community care interventions being delivered to rural populations, report their associated outcomes, and to highlight evidence-informed "best practices" for delivering care to rural communities. This rapid review also looked to Sweden, Intermountain healthcare in the United States, and Australia to identify any unique approaches or lessons to be learned for implementing and delivering home and community support services to rural and remote populations.

Methods

This rapid review was conducted to identify best practices in the provision of home and community care services to rural, remote, and underserved populations.

Rapid Scoping Review

A broad search strategy was employed to identify published systematic reviews synthesizing evidence on home and community care interventions for rural populations (Appendix A). To identify a breadth of articles, the search strategy was designed around two key concepts: (1) home and community care interventions; and (2) rural populations. A combination of subject headings and textwords were used to search for these concepts in three databases: MEDLINE, EMBASE, and CINAHL Plus. Subject headings pertaining to the concept of "home and community care" were exploded to broaden the search by including narrower related terms. Subject headings relating to the concept of "rural populations" were exploded and focused to retrieve a breadth of articles targeting rural populations. Searches were limited to systematic reviews published in English between 2015 and 2019.[1]

Applicable articles were then imported to Zotero referencing software, and duplicates were removed. Two independent researchers (AK, RN) screened titles and abstracts for inclusion and consulted a third researcher (SC) to discuss and resolve queries. Published articles were included if they met the following criteria: (a) were systematic reviews; (b) discussed home or community care intervention(s); and (c) included analyses or discussion of rural, remote, and underserved populations. Articles were excluded if they focused exclusively on interventions delivered in low- and middle-income settings. As well, articles discussing health provider training and retention in rural areas were excluded as they were not specific to the delivery of home and community care. Following title and abstract screening, two researchers (AK, RN) screened the full text of each article. A PRISMA diagram depicting the comprehensive search and screening process is available in Appendix B (Moher, Liberati, Tetzlaff, & Altman, 2009).

A standardized data extraction form was used to retrieve data from the reviews (Appendix C). To ensure consistency, three researchers each selected a sample article to chart data into the extraction form (AK, RN, MK). Team meetings were then held to discuss preliminary findings and note discrepancies between the articles. Two researchers (RN, SC) analyzed the abstracted data and original articles together to identify key themes regarding the outcomes achieved by the intervention, and recommendations for best practices. Similarities and discrepancies between the articles were recorded and discussed. The analysis below presents a summary of the findings.

[1] Validated search filters developed by BMJ Knowledge Centre and the University of Texas' School of Public Health were applied to the searches in each database to retrieve systematic review articles (Hooper, n.d.)("Study design search filters | BMJ Best Practice," n.d.).

Rapid Jurisdictional Review

This scoping literature review was supplemented with brief reviews of three jurisdictions of interest – namely, Sweden, the United States (Intermountain Healthcare) (Intermountain Healthcare, n.d.-a), and Australia – to identify existing home and community care initiatives for rural, remote and underserved populations, as well as best practices and impacts, if available. The jurisdictional reviews involved a broad scan of grey literature (e.g., government and independent evaluation reports), government websites, media releases, and websites of other relevant international bodies (e.g., the European Observatory on Health Systems and Policies, and the World Bank).

Limitations of this review

- This review summarizes a snapshot of evidence from published systematic reviews, and may miss other relevant primary, secondary, and grey literature sources, as well as articles published prior to 2015.
- This review does not include an appraisal of evidence, and notes that some of the systematic reviews reported weaknesses in their included studies' designs.
- The jurisdictional review was selective; as such, we do not claim to have produced a comprehensive review of all jurisdictions that exhibit promising home care approaches nor that we exhaustively captured all promising home care initiatives in the three jurisdictions included in this study.

Analytic Overview

Twenty-two systematic review articles are included in this rapid review. These systematic reviews reported evidence from a minimum of seven research studies, evaluations, and/or conference posters (Alston, Peterson, Jacobs, Allender, & Nichols, 2016; Carey, Sirett, Russell, Humphreys, & Wakerman, 2018a), to a maximum of 182 research studies, evaluations, and conference posters (Hoeft, Fortney, Patel, & Unützer, 2018). Only one review had sufficient data to complete a meta-analysis (Khunti et al., 2015); however, this was not a criteria for inclusion in this analysis. All selected articles described a variety of home and community care interventions delivered to rural, remote, and underserved populations globally.

Populations

All reviews included a focus on interventions delivered to broadly defined rural and remote populations, with some studies reporting on outcomes among a mix of rural and urban populations. Two studies focused specifically on interventions for rural Indigenous populations in Australia (Caffery, Bradford, Wickramasinghe, Hayman, & Smith, 2017; Gwynn et al., 2019). Several articles focused on patients with complex or chronic diseases, including: non-communicable diseases (Kim et al., 2016), type 2 diabetes (Khunti et al., 2015; Lepard, Joseph, Agne, & Cherrington, 2015), and cardiovascular disease (Alston et al., 2016; Ruiz-Perez, Bastos, Serrano-Ripoll, & Ricci-Cabello, 2019). Two articles described the use of telehealth to support caregivers (Chi & Demiris, 2015; Ruggiano, Brown, Juanjuan Li, & Scaccianoce, 2018).

Types of Interventions

The different types of interventions described in the articles can be broadly classified as: (a) telehealth; (b) healthcare workforce; (c) public health; and (d) visiting services. These intervention types are described in more detail below. It is important to note that these categories are not mutually exclusive, and many studies detailed overlapping interventions. For example, one review reported findings from studies that used telehealth tools to support task-sharing between health professionals (Hoeft et al., 2018).

The majority of articles described the application of telehealth interventions (Bradford, Caffery, & Smith, 2016; Caffery et al., 2017; Chi & Demiris, 2015; Gentry, Lapid, & Rummans, 2019; Ito, Edirippulige, Aono, & Armfield, 2017; King & Sarrafzadeh, 2018; Ruggiano et al., 2018; Zhou, Crawford, Serhal, Kurdyak, & Sockalingam, 2016). These interventions were delivered through various modalities, including: videoconferencing, telemonitoring, smartwatches, and electronic health records. A rapid review synthesising the use of telehealth interventions among rural populations, including data extracted from several of these articles, is available elsewhere (Saragosa et al., 2019).

Four articles described interventions that were shaped around the healthcare workforce. These included interventions delivered by community health workers (Kim et al., 2016; McCollum, Gomez, Theobald, & Taegtmeyer, 2016), changes in nurse practitioners' scope of practice (Patel, Petermann, & Mark, 2019), and task-sharing approaches whereby tasks are shifted from highly skilled to less-skilled individuals (Hoeft et al., 2018).

Five articles reported outcomes associated with public health, educational, or preventative interventions. Two described nutrition and obesity-prevention interventions (Calancie et al., 2015; Gwynn et al., 2019), and two focused on preventative screening (Davis et al., 2018; Khunti et al., 2015). One article discussed a range of educational and support-based approaches towards improving diabetes self-management (Lepard et al., 2015).

Two articles described the use of visiting or mobile primary care services in rural areas (Carey et al., 2018a; Carey, Sirett, Wakerman, Russell, & Humphreys, 2018b).

Three articles did not focus on a specific intervention type, but rather described a range of interventions used to target a specific outcome of interest or patient population (Alston et al., 2016; Brainard, Ford, Steel, & Jones, 2016; Ruiz-Perez et al., 2019). For example, the articles discussed interventions targeting heart disease (Alston et al., 2016), unplanned care use (i.e., any healthcare sought without an advance appointment) (Brainard, Ford, Steel, & Jones, 2016), and cardiovascular care (Ruiz-Perez et al., 2019). These articles included outcomes related to exercise-based, telehealth, and self-management interventions among several others.

Outcomes of Interest

The review articles discussed a variety of outcomes associated with the home and community care interventions. Common outcomes included: well-being and quality of life, satisfaction, personal capacity, healthcare utilization, costs, mortality and condition-specific outcomes, access, and screening and early detection of disease. The findings associated with each of these outcomes are presented below.

Well-being and quality of life

Six articles described outcomes related to emotional well-being and quality of life. Overall, telehealth interventions contributed to positive emotional experiences among patients and caregivers. Four articles describing telehealth interventions reported improvements in well-being, psychosocial health and quality of life (Caffery et al., 2017; Chi & Demiris, 2015; Gentry et al., 2019; Ruggiano et al., 2018). Other interventions, including task-sharing and combined educational and exercise interventions also noted improvements in patient quality of life (Alston et al., 2016; Hoeft et al., 2018).

Despite their integral role in the delivery of these interventions, the emotional well-being of healthcare providers was only discussed in one article (Hoeft et al., 2018). One study in this

review described task sharing in psychiatry, and found that an approach utilizing telehealth, visiting psychiatrists, local and visiting providers, and off-hours on-call services helped to reduce burnout among primary care providers (Mahmood, Roman, & Forbes, 2001; as cited in Hoeft et al., 2018).

Satisfaction

Six articles reported outcomes related to participant satisfaction. Telehealth and task-sharing interventions were associated with neutral to high levels of satisfaction among patients, caregivers, and providers; however, the specific aspects of the interventions that led to participant satisfaction were not reported (Caffery et al., 2017; Chi & Demiris, 2015; Gentry et al., 2019; Hoeft et al., 2018). Two articles found that some participants either had no preference for, or actually preferred, telehealth interventions over in-person care (Caffery et al., 2017; Chi & Demiris, 2015). Visiting services had a mixed effect on patient satisfaction. One study showed that although participants were satisfied with some aspect of their care, they were dissatisfied with the location and schedule of the mobile service (Carey et al., 2018a). In particular, participants reported that clinics opening one day per week was insufficient to meet their needs. One review reported on patient satisfaction in the United States in relation to the cost of care, source of care, and wait times as a result of policies expanding or restricting nurse practitioners' scopes of practice (Patel et al., 2019). Its authors reported contradictory findings from two studies with respect to participants' satisfaction towards the costs of their care, and found that less restrictive policies were associated with lower satisfaction towards both the source of care and wait times.

Personal capacity

Eight articles discussed different facets of personal capacity among their outcomes, including: self-management, physical and cognitive function, knowledge, and empowerment. Telehealth interventions, ranging from remote monitoring for family caregivers and tele-education for healthcare providers in remote areas, had positive effects on personal capacity in four studies, contributing to improved skills, knowledge, and empowerment among patients and caregivers (Caffery et al., 2017; Chi & Demiris, 2015; Ruiz-Perez et al., 2019; Zhou et al., 2016). One review reported that community health workers providing education and outreach services produced an increase in knowledge, coping skills and the likelihood a patient would seek treatment post-intervention (Hoeft et al., 2018). Another review found that although community health workers improved specific health outcomes such as self-efficacy, as demonstrated in an intervention for asthma control, other evidence indicated a mixed impact on cognitive function for mental health-related interventions (Kim et al., 2016). A study in one review reported that domiciliary rehabilitation did not lead to significant improvements in physical function (Roderick et al., 2001; as cited in Ruiz-Perez et al., 2019). Finally, two review articles reported that educational interventions increased patients' knowledge about their condition (Lepard et al., 2015; Ruiz-Perez et al., 2019). Interestingly, one study in these reviews compared telehealth and in-person

educational interventions and found that although they both increased knowledge about stroke, the telehealth intervention was better at improving behaviours to decrease vascular risk factors (Ruiz-Perez et al., 2019).

Healthcare utilization

Three reviews discussed outcomes related to healthcare utilization. One reported the impact of many different interventions on the use of unplanned care (e.g., emergency department visits, drop-in clinic visits, hospital admissions, etc.) by rural populations (Brainard et al., 2016). Most of the interventions discussed in this review reported modest reductions in unplanned care use. Self-management and case-management interventions typically had no impact on unplanned care use. Overall, chronic illness management, telemedicine, and community health clinics all showed the potential to reduce unplanned care use, with telemedicine services being the most promising, although studies were mixed. One review reported that American states with flexible policies governing nurse practitioner scopes of practice observed greater use of preventative services and decreased rates of avoidable hospitalizations and hospital readmissions within 30 days of initial treatment (Patel et al., 2019). In the third review, one study reported that a multidisciplinary heart failure management program involving medical and non-medical interventions led to significantly reduced heart failure hospitalizations (Ruiz-Perez et al., 2019).

Costs

Seven articles discussed individual or system-level costs as an outcome of interest. Six focused on cost-savings associated with telehealth interventions, and one on the use of community health workers. The six reviews on telehealth interventions all reported findings that were either cost effective or reduced health system costs, or had such potential (Brainard et al., 2016; Caffery et al., 2017; Chi & Demiris, 2015; Gentry et al., 2019; Ruiz-Perez et al., 2019; Zhou et al., 2016). Some studies included in three of the reviews demonstrated either reduced or unchanged costs associated with the intervention (Brainard et al., 2016; Caffery et al., 2017; Gentry et al., 2019), whereas four included studies claiming cost effectiveness without clear empirical evidence (Brainard et al., 2016; Chi & Demiris, 2015; Ruiz-Perez et al., 2019; Zhou et al., 2016). One review noted specifically how telehealth could reduce patient, caregiver, and provider costs associated with travel (Gentry et al., 2019). Community health workers, acting as support or alleviation for specialists of care provision, were also associated with cost effective and sustainable care in one review (Kim et al., 2016).

Mortality and condition-specific outcomes

Mortality and other condition-specific outcomes were reported in five reviews. One review indicated an association between various visiting services and lower mortality among rural and remote communities (Carey et al., 2018a). Another found that nutritional interventions had the potential to improve diet-related outcomes and biochemical/haematological markers (Gwynn et al., 2019). Diabetes educational support programs had a mixed effect on biologic outcomes like HbA1c and lipid profiles as reported in one review (Lepard et al., 2015). Another review suggested

that community based-health workers might be effective at improving cardiovascular risk reduction, diabetes control, and blood pressure, with multiple studies identified in Kim et al. (2016) demonstrating significant results. A final review explored various interventions' impact on cardiovascular health and mortality and found inconsistent results; however, of the interventions discussed, multifaceted self-management initiatives may have demonstrated the most potential to reduce mortality, with significant effects observed (Ruiz-Perez et al., 2019).

Access

Five reviews included access to care among their key outcomes. Two reported that telehealth services either increased access to specialist care or reduced time to treatment (Caffery et al., 2017; Ruiz-Perez et al., 2019). Expanding nurse practitioners' responsibilities through less restrictive policies also improved access to care in a number of studies included in one review (Patel et al., 2019). Visiting services, where a centralized hub of healthcare providers periodically travel to remote locations or an established team travels in a continuous circuit between a set of remote locations, were associated with a reduction in waiting lists in one review (Carey et al., 2018a). Finally, one review suggested that community health worker interventions promoted more equitable access to healthcare, reducing inequities associated with place of residence and encouraging uptake of health services (McCollum et al., 2016).

Screening and early detection

Five reviews included screening and early detection among their outcomes. Two reviews focused specifically on screening interventions and observed a positive effect on the response rate towards screening for diabetes and colorectal cancer (Davis et al., 2018; Khunti et al., 2015). For colorectal cancer screening, strategies that increased demand and access were typically the most effective, including: delivering kits by mail, using pre-addressed stamped envelopes, client reminders, and provider-ordered in-clinic distribution (Davis et al., 2018). One review observed improved screening rates among Indigenous Australians receiving telehealth interventions (Caffery et al., 2017). Another reported that visiting services led to improved melanoma detection (Carey et al., 2018a). Finally, one review found that community-based health worker cancer control interventions improved cancer screening behaviours in 70% of studies (Kim et al., 2016).

Summary of Best Practices

This rapid review of the literature identified several best practices or guiding principles for delivering effective home and community care services to rural, remote, and underserved populations. These best practices are described in detail below, with practical examples provided that can be used to achieve optimal results.

Community engagement and partnership

Community engagement, whereby community members and resources are consulted or integrated into service delivery, was associated with higher rates of intervention success (Alston et al., 2016; Caffery et al., 2017; Calancie et al., 2015; Carey et al., 2018a; Carey et al., 2018b; Gwynn et al., 2019; Hoeft et al., 2018; Kim et al., 2016; McCollum et al., 2016). Engaging and integrating community members in an intervention is a valuable strategy because it enables the use of existing structures and knowledge of the needs and interests of the community's members (Alston et al., 2016). A variety of local partners with different backgrounds can be effective at improving home and community care interventions. For example, one review studying nutrition interventions suggested that local champions can increase access to local foods and improve dietary outcomes in rural areas (Calancie et al., 2015). A review of telehealth interventions for rural Aboriginal peoples in Australia also recommended including a local Aboriginal health practitioner in video consultations to improve access to, and uptake of, culturally appropriate specialist services (Caffery et al., 2017). Interventions delivered through community health workers may be particularly effective in some situations because of their existing relationship to the community and link to the health care system (Kim et al., 2016; McCollum et al., 2016). Similarly, reciprocal partnerships between visiting services and resident staff have been associated with improved care coordination and patient outcomes (Carey et al., 2018a, 2018b). Other resources in the community like churches, organizations, and individual community members can also be used to improve intervention success (Kim et al., 2016).

Adapting to the local context

Consistent with the theme of community engagement and partnership described above, successful interventions are typically adaptable to the local context and consider the unique resources and needs of the community (Bradford et al., 2016; Ruiz-Perez et al., 2019). However, as one review pointed out, academic literature evaluating existing programs and interventions often lacks sufficient description of the local context or insight as to how to actually implement the interventions successfully (Davis et al., 2018). As such, governments and organizations should consider conducting formative research and an early assessment of the community prior to implementing new initiatives (Alston et al., 2016; Calancie et al., 2015; Carey et al., 2018a, 2018b). For example, completing preliminary research on food preferences, cooking styles, and access to locally grown produce may improve diet-related outcomes in rural communities (Calancie et al., 2015).

This preliminary research is particularly important for assessing each community's receptiveness towards a proposed intervention. This issue was raised by Ito et al. (2017) in their systematic review on the uptake of telemedicine in Japan. The authors found that there were limited published studies on telemedicine in the country and speculated that "there may be some reluctance towards wider use of technology for healthcare delivery services" (p. 833) due to cultural concerns towards medical services, and high sensitivity surrounding privacy and security issues among Japanese people. As such, preliminary research can be useful in uncovering various biases or beliefs towards interventions within populations and communities.

Despite limitations in existing literature towards effectively adapting and implementing interventions to the local context, these reviews did offer some guiding principles for implementing context-appropriate home and community care services. In particular, Carey et al. (2018b) offered seven considerations for the implementation of visiting service programs in rural areas. Three involved adapting the intervention to the local context, and included: (1) justifying the need for the service, or whether the community can support resident primary care staff; (2) scheduling visits based on the needs of the community; and (3) ensuring that the service is sufficiently comprehensive to meet these needs. Engaging community members may be an effective tool for evaluating these types of initiatives prior to intervention implementation.

Evaluation and transparency

An important limitation in many of the reviews was the weak quality of the studies and supporting evidence for the interventions described. As a result, several authors recommended greater transparency and more robust evaluation of new interventions (Bradford et al., 2016; Brainard et al., 2016; Carey et al., 2018a, 2018b). Of particular importance was clearly reporting the cost and cost-effectiveness of the interventions to enable future home and community care decision-making (Calancie et al., 2015; Gentry et al., 2019; Kim et al., 2016). Certain interventions, particularly those implemented through pragmatic research designs, may have a greater capacity for clear reporting and evaluation (Davis et al., 2018). Pragmatic designs often focus on the practical implications of research, accounting for the social, political, and historical contexts around the intervention (Creswell & Poth, 2018).

Increasing use of telehealth services

Telehealth emerged as one of the most effective interventions across the reviews, indicating that further innovation and uptake of telehealth services in rural communities is warranted. Telehealth services were associated with many positive patient and caregiver outcomes, including: reduced use of unplanned care, reduced time to treatment, reduced mortality, improved caregiver health, improved access to care, and improved screening rates (Brainard et al., 2016; Caffery et al., 2017; Chi & Demiris, 2015; Ruiz-Perez et al., 2019). One review also suggested that telehealth was an effective tool for managing chronic disease in rural areas (Caffery et al., 2017). In addition to improving health outcomes, telehealth was also successfully used to increase knowledge and provide education to clinicians, patients, and caregivers (Chi &

Demiris, 2015; Hoeft et al., 2018; Ruiz-Perez et al., 2019). Telehealth interventions were also perceived to be highly feasible and acceptable among both patients and caregivers (Gentry et al., 2019; Ruggiano et al., 2018), and at times even preferable to in-person care (Caffery et al., 2017; Chi & Demiris, 2015). Evidence of the cost-effectiveness of telehealth services was mixed or positive in most reviews. However, some authors suggested that telehealth might be particularly cost-effective in rural communities because of the high costs associated with travel, which are often borne by the patient (Bradford et al., 2016; Brainard et al., 2016). Opportunities to further optimize the use of telehealth services in rural communities also exist and can be achieved through adopting basic technologies that do not require an internet connection and don't require patients to leave their homes (Lepard et al., 2015).

Utilizing community health workers

In addition to the use of telehealth for effective home and community care, the engagement of community health workers presented a range of benefits for the healthcare system. One review investigating the use of task-sharing for mental healthcare indicated that the ability to delegate tasks to community health workers can be used to support communities that lack specialists and serve patients that may not have been able to access appropriate care otherwise (Hoeft et al., 2018). This pattern was particularly prevalent when integrated with telehealth technologies, reinforcing the previous recommendation to increase the use of innovative telehealth interventions to strategically optimize home and community care. Community health workers may also be the gatekeepers towards increased access of community care and act as facilitators of culturally sensitive care (Hoeft et al., 2018). This was demonstrated in one review where community health workers were found to promote more equitable referral uptake within health facilities (McCollum et al., 2016). Community health workers are also uniquely positioned to positively influence factors that impact utilization of health services at the individual, household, and community levels. Furthermore, community health workers have been associated with both cost-effective and sustainable care (Kim et al., 2016; McCollum et al., 2016).

Multiple studies in one review concluded that community health workers had the potential to produce cost savings; however, the review authors noted that there was insufficient evidence to support this finding for community health worker interventions more generally (Kim et al., 2016). Another review indicated that cost-effectiveness was particularly noticeable in cancer prevention and cardiovascular risk reduction care, as well as in effectively serving medically underserved and minority communities (Kim et al., 2016). Lastly, paid community health workers tend to cover a wider scope of work and are more flexible with their scheduling (Kim et al., 2016). Thus, adequate financial compensation may help community health workers deliver greater impact to community care initiatives.

Optimizing the health workforce

Strategies directed at optimizing the use of the healthcare workforce are also important for delivering effective care to rural communities. These strategies often involve enhancing health

professionals' capacities to provide care, either through skill development or expanding their scope of practice. Two reviews indicated that interventions delivered through community health workers represented an effective and cost-effective approach for improving access to care in areas with limited specialist services and resources (Kim et al., 2016; McCollum et al., 2016). Improving pay and training among this workforce tended to lead to them adopting additional roles, as well as improved outcomes (Kim et al., 2016). Similarly, enhancing nurse practitioners' scopes of practice through less-restrictive policies was associated with an increased use of primary care services and decreased use of acute care services (Patel et al., 2019). This review also showed that less restrictive policies governing nurse practitioners' scopes of practice led to more nurse practitioners working in community health centres and rural areas, suggesting that these policies can be used as a lever to improve access to care. However, it is important to note that expanded scope of practice among health professionals can also present challenges. In particular, less restrictive policies governing nurse practitioners' scope of practice may result in increased use of patient referrals to medical doctors unless sufficient resources are available (Patel et al., 2019). This suggests that finding an appropriate balance of responsibilities for different health professions is imperative to each groups' ability to successfully improve health outcomes.

Delivering multi-component interventions

Several authors recommended multi-component or multi-setting strategies to improve intervention success (Davis et al., 2018; Gwynn et al., 2019; Khunti et al., 2015; Lepard et al., 2015; Ruiz-Perez et al., 2019). These approaches were typically defined as using more than one intervention strategy (i.e., health-promotion activities as well as in-store grocery shopping support) to target a specific outcome. Multi-component interventions were most often recommended by authors evaluating public health interventions. Both reviews studying screening interventions concluded that multi-component strategies were the most effective at increasing testing rates in the populations (Davis et al., 2018; Khunti et al., 2015). One review examining nutrition-based interventions also recommended adopting a suite of approaches, including: store-based strategies, price discounts, nutrition education, and health promotion programs aimed at improving diet-related outcomes (Gwynn et al., 2019).

Jurisdictional Review

Sweden

Healthcare in Sweden is universal and publicly financed (Szebehely & Trydegård, 2012). The healthcare system is decentralized with 20 county councils that are responsible for providing healthcare to residents according to the *Health and Medical Service Act* (Sweden.Se, 2015). Municipalities (290 in the country) within each of these county councils are responsible for care of the elderly in-home or in special accommodations, as well for people with physical disabilities, psychological disorders, and people released from hospitals. The *Primary Care Choice Reform in Sweden* was introduced in 2010 with an aim to "support innovation, private entrepreneurship, and quality development in the primary care sector through the introduction of market mechanisms such as competition and consumer choice" (Kullberg, Blomqvist, & Winblad, 2018). The reform meant that private actors were given the right to establish practices in the healthcare system and compete for funding with public care centers. The restructuring was based on the concept of fair market competition, giving patients the opportunity to choose where they received care. Pre-set funding formulas were put in place to determine financial resource allocation. As a result, there was a substantial increase in new private healthcare establishments; however, many of these establishments were in densely populated areas. This change had the potential to undermine the goal of equity of healthcare access in remote and rural locations, as it became difficult for policy makers to plan and coordinate care due to the new influx of market competition (Kullberg et al., 2018).

With these challenges, there are initiatives in place that change the way care is provided in rural and remote locations in Sweden. Three examples are outlined below:

The Esther Model

The Esther Model was developed in Sweden's Hoglandet region with the goal to improve care for elderly people with complex conditions (The Commonwealth Fund, 2019). The model of care includes efforts for continuous quality improvement, cross-organizational communication, problem-solving and staff training. The program got its name from the experience of an elderly patient named Esther who was overwhelmed navigating the healthcare system when she was faced with a sudden illness. An action plan was created, inspired by interviews with health system users to identify redundancies and gaps in care for elders with complex care needs. The central concept of the model is determining "What is best for Esther?" The results of this care strategy included decreases in admission to medical departments, readmission rates, and in lengths of stay at a hospital. As well, patients' perceptions of the program were positive, expressing feelings of safety and an appreciation for the personal contacts gained through their healthcare experience. These outcomes are a result of the following practices deployed in this care model: (1) a steering committee of community care chiefs from municipalities, hospitals, and primary care centers; (2) four cross-organizational, multi-professional meetings each year for sharing

experiences; (3) inter-organizational training workshops on palliative care, nutrition, and fall preventions; and (4) an annual "strategy day" where teams come together to generate priorities and fresh ideas.

Healthcare Guide 1177

Another innovation is Healthcare Guide 1177, a medical database providing information on diseases, treatments, rules, and rights that is available to all Swedish residents online or over the phone (1177 Vårdguiden, 2015). The website also allows users to find and compare health clinics, use e-services to contact healthcare providers, manage (request, cancel, or reschedule) appointments, and refill prescriptions. Through this database, patients can securely access their own electronic medical record (EMR), including information from all the services providers they have seen. This is possible because a health information exchange platform was established that collects information from all existing EMRs and combines it into a single database. The outcomes achieved from Healthcare Guide 1177 include increased access to healthcare, strengthening patient autonomy , and an improved model for public health. These outcomes are achieved through the service's 24/7 availability, including direct phone access to nurses to determine the best course of action when required. As well, these outcomes depend greatly on the system's ability to provide secure online information that protects confidentiality.

Virtual Health Room (VHR) eHealth

A third innovation in Sweden is the "Virtual Health Room (VHR) eHealth" that was established in the small village of Slussfors as part of the funded project "Innovation power for thinly populated areas" (European Commission, n.d.). Since its conception, six more VHRs have been established in the area. Each VHR uses internet and medical technologies to provide basic primary health care to these areas where there is limited access to a general practitioner (Näverlo, Carson, Edin-Liljegren, & Ekstedt, 2016). The facilities provide access to teleconsultation, self-administrated blood testing, and general health checks. Patients have expressed satisfaction with the technical performance of the VHR, as well as its overall role as an alternative means of accessing healthcare. Patients perceived the VHR as making "adequate" or a "minimally satisfactory" contribution to a patient's healthcare. Patients with lower levels of knowledge, skill, and confidence in managing their own health were less likely to feel safe and confident in a VHR environment. Those who were referred to a VHR by a health professional were more likely to think that the VHR improves access to healthcare than those who utilized it independently. A lesson learned from the implementation of this initiative was that the service's contribution to access to health care is not seen as a substantial attribute, suggesting that the design of VHRs should place more emphasis on technical performance to attract users. This means that improving technical performance and user confidence by continuously updating VHR technologies and attempting to influence Patient Activation Measure (i.e., a measurement tool that identifies how knowledgeable patients are about their health conditions, the factors that influence their health, and how good they are at managing their own health) is most likely to lead

to increased use. Finally, studies of this initiative recognized the need to better engage populations often marginalized in technology development and in the design of VHR.

Intermountain Healthcare

The healthcare system in the United States is a hybrid of publicly and privately-run programs (DPE Research Department, 2016). The majority of insured Americans are covered through their employers, and government-funded programs, such as Medicaid and Medicare, provide coverage to particular vulnerable populations (i.e., low-income citizens, those living with a disability, or older adults) (DPE Research Department, 2016).

Intermountain Healthcare (IHC) is a non-profit healthcare system in the United States, and the largest provider of healthcare in Utah. It was established in 1975 when the Latter-Day Saints Church donated 15 hospitals under the premise that the IHC would operate as a charitable, non-profit, secular organization caring for people in the Intermountain West region of the country (Baker et al., 2008). IHC manages 24 hospitals, 2,400 physicians and advance-practice providers, 160 clinics, and 38,000 employees working in Utah, Wyoming, and Idaho (Intermountain Healthcare, n.d.-a). It offers its own health insurance plan, SelectHealth, that covers approximately 850,000 individuals (Baker et al., 2008).

IHC has a reputation for clinical excellence. It has been recognized for its integration, information systems, clinical care, and financial performance. Its foundation in evidence-based medicine and quality development has shown improvements in patient outcomes and costs, as highlighted in the following interventions (Baker et al., 2008).

Project ECHO

Project ECHO (Extension for Community Healthcare Outcomes) is a collaborative model of medical education and care management to increase access to specialty treatment in rural and underserved areas (Intermountain Healthcare, n.d.-d). Via virtual conferencing, front-line clinicians are linked to other IHC clinical teams and are thus able to obtain knowledge and support to best care for patients with complex conditions. IHC currently offers Project ECHO sessions for dementia care, eating disorders, and antimicrobial stewardship (Intermountain Healthcare, n.d.-d).

The goal of Project ECHO is to improve access to specialty care, allowing patients to be treated by their local providers, either in the home or community, and reduce travel to specialists. Project ECHO increases capacity in primary care, provides opportunities for specialist mentoring, and improves quality of care and provider education and satisfaction (The University of Utah, n.d.). Overall, the initiative has demonstrated itself to be a low-cost and effective model of care in resource-constrained settings (Hariprasad et al., 2018; Rattay, Dumont, Heinzow, & Hutton, 2017; Theodore et al., 2015).

The team includes an expert panel and other peer providers who provide evidence-based, best practice guidelines. Project ECHO offers no-cost continuing medical education and continuing nursing education credits that may incentivize involvement (Intermountain Healthcare, n.d.-d). Curriculum relevance and practicality, innovative learning approaches, active virtual participation, and the opportunity to build new and maintain existing relationships were viewed as integral aspects of the program among participants (Shimasaki, Bishop, Guthrie, & Thomas, 2019).

Connect Care Pro

In 2018, IHC merged its 35 telehealth programs and more than 500 health care professionals to create Connect Care Pro, one of the largest telehealth programs in the United States (Intermountain Healthcare, 2018). Alongside basic medical care, it provides crisis and critical care, newborn critical care, medical oncology, and stroke care services (Intermountain Healthcare, n.d.-b). This program supplements existing staff in all IHC hospitals and has plans to extend to accessible areas, such as patient kiosks in homeless shelters and schools. Its goal is to be a "virtual hospital," keeping patients out of acute care settings by providing access to care in homes, clinics, and local communities when possible (Allred, 2019).

Connect Care Pro helps increase access to care, lower costs, and improve patient experience through improved speed-to-treatment, decreased lengths of stay, and reduced mortality rates (Intermountain Healthcare, n.d.-b). For instance, a telehealth program at eight Intermountain hospitals that incorporated video-assisted resuscitation on newborns was associated with estimated cost savings of $1.2 million in one year (Albritton, Maddox, Dalto, Ridout, & Minton, 2018).

Connect Care Pro also offers Provider Support Services that help facilitate transfers and coordinate care onsite. These include Clinical Coordination Teams of intensivists and hospitalists, Flight teams, and Transfer Center and Patient Placement programs (Intermountain Healthcare, n.d.-c). This array of services helps streamline and integrate care across settings.

Australia

Australia is a federation, with fiscal and functional responsibilities divided between the Australian Government and the six states and two territories. The Australian healthcare system (Medicare) is primarily publicly financed. The federal government is responsible for health policymaking and funding, while state health departments oversee health service delivery (Healy, Sharman, & Lokuge, 2006).

Primary care practitioners act as referral gatekeepers to the rest of the healthcare system, as they constitute the first point of medical contact. The Australian Government funds 118 Primary

Health Networks (PHN; formerly Divisions of General Practice) – geographic networks of 100-300 primary care practitioners, which provide professional support, run continuing medical education activities, fund and administer health promotion efforts, and coordinate shared-care arrangements. All levels of government finance social care services, which are delivered by public (government) and private (for- and non-profit) service providers (Healy et al., 2006).

Australians residing in rural and remote areas experience poorer health outcomes compared to those living in urban areas, possibly due to a constellation of other high-risk sociodemographic factors, barriers to healthcare access, and increased occupational and physical risk. These outcomes may also be attributed to a higher proportion of Aboriginal or Torres Strait Islander Australians living in rural and remote areas (Australian Institute of Health and Welfare, 2017). Approximately 3% of the Australian population self-identify as Indigenous and 14% reside in rural areas (Australian Bureau of Statistics, 2016; *The World Bank & United Nations Population Division's World Urbanization Prospects*, 2018)

In light of poor health outcomes experienced by Australians residing in rural and remote areas, as well as the maldistribution of the rural health workforce, the Australian Government has implemented a number of clinical education- and health professional-focused initiatives, described below (Department of Health, 2017). Some of these initiatives are specifically focused on recruiting and retaining health professionals in rural and remote areas (e.g., the Rural Health Multidisciplinary Training Program [RHMT]). While these are not discussed in this section, they are briefly described in Appendix D. Further, among the publicly available sources included in the present review, the impact of these federal government initiatives on outcomes, such as patient and provider experience of care, quality and access to care, and costs, is unclear.

Rural Health Outreach Fund (RHOF)

The RHOF comprises federal funds distributed between the six Australian states to support services related to four priority areas: (1) chronic disease management, (2) eye health, (3) maternity and pediatric health, and (4) mental health. The overall goal of the RHOF is to improve access to medical specialists, primary care providers, as well as allied and other health providers in rural and remote areas of Australia.

Rural Locum Assistance Program (Rural LAP)

To enable access to continuing professional development for eligible health professionals, the Rural LAP consolidates three separate schemes: (1) the Nursing and Allied Health Rural Locum Scheme (NAHRLS), (2) the Rural Obstetric and Anaesthetic Locum Scheme (ROALS), and (3) the Rural Locum Education Assistance Program (Rural LEAP). The overall goal of the Rural LAP is to support the existing health workforce in rural locations and increase capacity. The Rural LAP also benefits urban health professionals wishing to experience rural or remote practice by undertaking a locum placement in non-urban Australia.

Conclusions

This rapid review summarizes the review literature and highlights best practices of home and community care interventions for rural, remote, and underserved communities.

The findings of this review suggest that telehealth and community health worker-led interventions may be most effective for delivering care closer to home in rural communities. Telehealth interventions were associated with improvements in well-being, satisfaction, personal capacity, healthcare utilization, and access among patients and caregivers. Telehealth was also understood to be a cost-effective, feasible, and acceptable alternative to in-person care; however, the quality of the evidence was often weak. Interventions led by community health workers also appeared to lead to positive outcomes, particularly improvements in personal capacity, utilization, access, and screening. The use of community health workers was also understood to be a cost-effective approach to delivering care. Generally, interventions designed around education or screening led to their intended outcomes, namely increasing participant knowledge, capacity, and screening rates. The impact of mobile community visits was less clear, with observed improvements in access to care and screening rates, but mixed satisfaction towards the services. This suggests that visiting services have the potential to be effective, provided that they are intentionally centred around the needs of the community.

Our jurisdictional review also identifies practical examples of home and community care interventions adopted to deliver care to rural, remote, or marginalized populations. Among these were multiple examples of telehealth initiatives that employed basic technologies to deliver care. Similar to the findings of this rapid review, all of these interventions were associated with improved individual- or health system-level outcomes, including: improved access to care, patient satisfaction, and potential cost savings. Of particular relevance might be Sweden's Healthcare Guide 1177, which provides patients with access to medical information via the internet or phone. This innovative use of both internet and phone technologies might be important to consider when implementing telehealth in rural areas with limited resources and access to the internet. Technology was also indirectly used to provide care, as demonstrated in the Project ECHO program in the United States. This model links practitioners in rural and remote areas with specialist teams via teleconferencing, enabling patients to be cared for in their own communities and by their own care providers.

Consistent with our rapid scoping review, community engagement emerged as an important recommendation in Sweden's VHR eHealth initiative. This finding was frequently reported in the literature as an important consideration when implementing and delivering home and community care services to rural populations, and was associated with improved flexibility, cultural relevance, and satisfaction.

Presented below are the common considerations identified in the literature for designing, implementing, and delivering home and community services to rural populations:

1. **Engage community members and leaders** in intervention planning and delivery to mobilize their existing knowledge of the resources, values, and needs of the community.
2. Ensure that all new interventions are **adaptable to the local context**, conducting preliminary research to ensure that the intervention is culturally appropriate, and that the community will be receptive to it.
3. Regularly **monitor and evaluate** the intervention as transparently as possible, so that the services can be improved upon and successfully adopted in other settings.
4. Increase the use of **basic telehealth services** to improve access to care and reduce travel for patients, caregivers, and providers in rural communities.
5. Employ **community health worker-led interventions** when possible, as a cost effective and community-based strategy for achieving health equity.
6. **Optimize the healthcare workforce** by offering additional training and responsibilities to less-specialized workers, so that they can act as a liaison between community members and specialist services.
7. Utilize **multi-component interventions**, particularly when seeking to address complex public health challenges.

Appendix A: Search Strategy

1	review.pt.
2	(medline or medlars or embase or pubmed or cochrane).tw,sh.
3	(scisearch or psychinfo or psycinfo).tw,sh.
4	(psychlit or psyclit).tw,sh.
5	cinahl.tw,sh.
6	((hand adj2 search$) or (manual$ adj2 search$)).tw,sh.
7	(electronic database$ or bibliographic database$ or computeri?ed database$ or online database$).tw,sh.
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12	1 and 11
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14	meta-analysis.sh.
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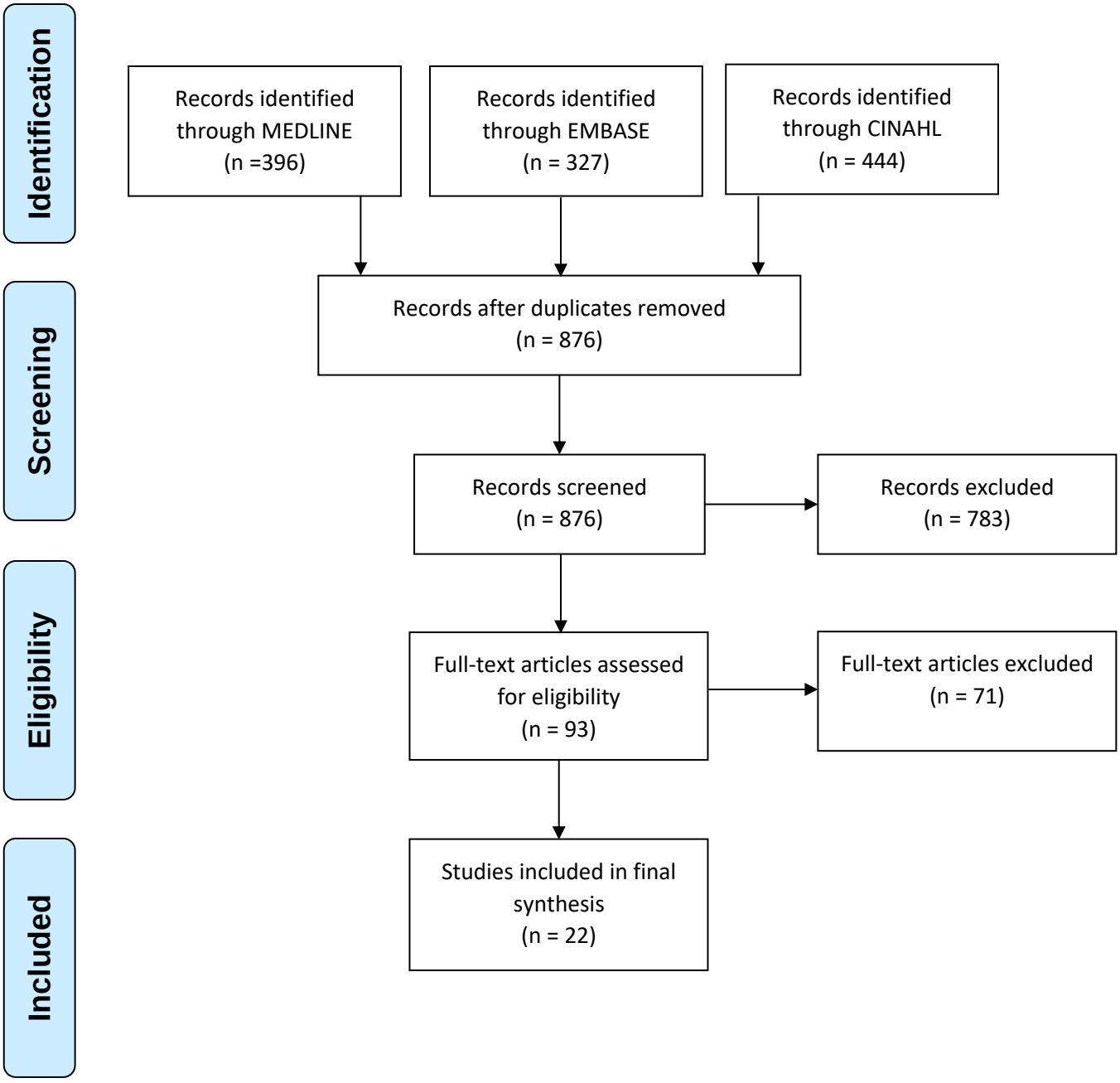
16	(systematic$ adj5 review$).tw,sh.
17	(systematic$ adj5 overview$).tw,sh.
18	(quantitativ$ adj5 review$).tw,sh.
19	(quantitativ$ adj5 overview$).tw,sh.
20	(quantitativ$ adj5 synthesis$).tw,sh.
21	(methodologic$ adj5 review$).tw,sh.
22	(methodologic$ adj5 overview$).tw,sh.
23	(integrative research review$ or research integration).tw.
24	or/13-23
25	12 or 24
26	exp Home Care Services/
27	exp Community Health Services/
28	exp Community Mental Health Services/
29	exp Primary Health Care/
30	((home or communit* or primary) adj4 (care or program or programs or service or services or initiative or initiatives)).tw,kf.
31	((first or primary) adj4 (contact or care or service)).tw,kf.
32	26 or 27 or 28 or 29 or 30 or 31
33	exp *Rural Health Services/
34	exp *Rural Population/
35	exp *Health Services Accessibility/
36	exp *Rural Health/
37	exp *Medically Underserved Area/
38	(rural or remote or isolated or north or northern or underserved).tw,kf.
39	33 or 34 or 35 or 36 or 37 or 38
40	25 and 32 and 39

Appendix B: PRISMA diagram



Appendix C: Summary of the Review Literature

Author/ Year	Target Population & Outcomes of Interest	Intervention/ Component Type	Summary of Key Findings	Practices Influencing Outcomes
Alston et al. (2016)	**Population:** Rural Australians **Outcomes:** Synthesize available evidence on efficacy of prevention efforts	Interventions focused on reducing the ischemic heart disease (IHD) burden in rural Australia; Primary prevention (exercise program, cardiac rehabilitation, full community intervention, etc.) and secondary prevention (7-week bi-weekly education and exercise cardiac rehabilitation program)	Primary efforts in rural communities are feasible and were effective in either reducing one or more risk factors, or IHD mortality (however studies were limited by short follow-up periods, small population numbers and a lack of inclusion of control groups in study designs). Secondary prevention studies indicated that the intervention groups have higher quality of life and cardiac knowledge scores. There were few studies that met inclusion criteria demonstrating that rural and remote populations are understudied in Australia.	Study provided some evidence that nurse-led education programs can reduce IHD risk factors in rural communities, but it did not compare to a control group. One article identified challenges with implementing a community-wide intervention, specifically in terms of resistance when trying to engage the community (finding only 35% of people thought IHD was a high concern). One article highlighted that when designing interventions for rural communities, use of existing structures and knowledge of the needs and interests of local sub-groups is fundamentally important. No "one size fits all" program – Success is dependent on consideration of the needs, interests, characteristics, and location of the community.
Bradford et al. (2016)	**Population:** People in rural/remote Australia **Outcomes:** *Primary*: type, number, and service characteristics *Secondary*: health-related outcomes, costs and resource utilization, satisfaction	Telehealth services operated from tertiary public hospitals into regional hospital facilities, urban-based specialists, general practitioners, community nurses providing telehealth to other locations including the patient's home. Videoconferencing + store-and-forward	Numerous barriers and challenges to uptake of telehealth services. Funding models to support clinicians who provide telehealth services are an important consideration (after funding was introduced many professionals developed specific guidelines and standards to support the use of telehealth). There has been an overall increase in the number of Telehealth services overtime. 68% of studies measured increase in accessibility.	Factors influencing success and sustainability: Vision - having clear, realistic goal defining purpose Ownership - clinical need, motivation, purposeful development of the service Adaptability - requirement to adapt service model in response to the needs of patients, clinicians, and health services (Often several iterations before establishing a suitable model) Economics - service offering transparent value (in terms of cost or time savings) with comparable clinical benefits to face-to-face services Efficiency - development of procedures and processes; did not always have high activity levels, but need to be efficient Equipment - did not require expensive equipment; many relied on low-cost alternatives, but need processes in place to manage technical issues

Brainard et al. (2015)	**Population:** Rural/remote populations **Outcomes:** Most common: Visits to the emergency room and unplanned hospital admissions	Telemedicine; telemonitoring, teleprompting	Self-management interventions did not reduce unscheduled care use. Specific condition interventions did not reduce unscheduled care overall; in 3 studies, telemedicine reduced unplanned visits for chronic illness. One article on community health clinics provided preventative care and reduced unplanned care use for an underserved population.	Programs for self-management of chronic illness, increased access to services and telemedicine often reduced use of unplanned health services. Interventions that work well in combined urban-rural populations seem to be effective in the rural subgroup alone. Telemedicine was most consistently effective at reducing unplanned care use or expensive emergency transport, especially when it brought specialist skills to remote locations.
Caffery et al. (2017)	**Population:** Indigenous people in Australia (many living in remote areas) **Outcomes:** Health, process, and economic outcomes of health services delivered by Telehealth	Telehealth services; including modalities of store-and-forward, video conferencing. and remote telehealth monitoring	Telehealth improved social and emotional wellbeing, improved clinical outcomes, improved access to specialist services, reduced travel, and improved screening rates. Indigenous people report positive perceptions of their interaction with telehealth.	Access to culturally appropriate health services improved when aided by local Aboriginal Health Practitioner. Telehealth increased accessibility to those in rural areas, can be used for management of chronic diseases. Telehealth reduced mental distress and alienation from transferring people to local community regional center Telehealth reported lower costs than face-to-face services.
Calancie et al. (2015)	**Population:** American and Canadian individuals living in rural communities (1/3 were Indigenous populations) **Outcomes:** Effectiveness of strategy and health outcomes	Nutrition-related policy and environmental strategies; Center for Disease Control and Prevention's Recommended Community Strategies and Measurements to Prevent Obesity in the United States (US)	Three themes identified relating to strategy adaptation and implementation of nutrition-related policy and environmental strategies in rural communities: (1) Accommodate long distances to food sources when implementing strategies; (2) Tailor strategies to distinct cultures and food preferences; (3) Build strong local partnerships when implementing strategies. Though results were mixed, interventions tended to improve participants' intentions to consume healthier foods, dietary knowledge, and self-efficacy related to healthy food acquisition and consumption; interventions positively influenced fruit and vegetable purchasing, reduced intake of sugar-sweetened beverages, and reduced dietary fat intake health outcome (weight status): One study reported reduced weight status,	In rural communities, policy and strategies may also promote economic development through farmer, store, and business support of food production/distribution/ sales. Authors propose studying strategies that locate retailer food outlets in close proximity to customers (as evidenced by one study that used mobile markets); Those planning rural interventions would benefit from conducting formative work to identify traditional/local foods and local approaches to food preparation to tailor interventions to local cultures and taste preferences; recommendation to report costs associated with implementing intervention strategies and explore the economic impact and role of local champions related to increasing access to local foods.

			one reported less of an increase of body mass index versus comparison community, one reported increased weight status, and 3 others did not find significant differences.	
Carey et al. (2018a)	**Population:** Rural and remote communities **Outcomes:** Impact and/or effective-ness	Primary health care service visits	There is an inadequate evidence base from which to make decisions about the effectiveness of visiting services or how visiting services should be structured in order to achieve better health outcomes for people living in remote and rural areas. Almost invariably, evaluations of visiting services assessed the service provided as opposed to the visiting features of the service.	In the absence of knowledge about effectiveness or impact, health professionals, funders, policy-makers, and evaluators may benefit from considering the following principles: providing visiting services only in small communities that cannot support resident care; scheduling the timing of services in a manner that meets the needs of the community; coordinating visiting services with resident primary care services; ensuring that services are sufficiently comprehensive and targeted to the needs of the community; allowing for continuity of care provider; supporting both resident staff and visiting providers; and continual monitoring, evaluation, and improvement of services.
Carey et al. (2018b)	**Population:** Rural and remote communities **Outcomes:** Types of services and the way in which service delivery was described	Primary health care service visits	Visiting service models can be broadly classified into 'hub-and-spoke' models (visiting from a central base) or mobile clinics or teams (travelling from location to location). Some mobile services visit areas where no resident health professionals practice, whereas others provide additional resources, supplementing existing residential health services. More research is required on the role and nature of visiting primary health care services in rural and remote areas.	The factors important for effective primary care service provision seem to include: whether the visiting service is adequately meeting community needs (i.e., through regular and frequent visits); continuity of care provider; the visiting service's impact on any resident workforce; the ability of providers to build and sustain relationships with patients and the communities being serviced; coordination of services; collaborative arrangements with resident staff; and prior experience and familiarity with the needs and context of the community being serviced.
Chi & Demiris (2015)	**Population:** Family caregivers **Outcomes:** Psychological health, satisfaction knowledge/ skills/ patient management, social support/function/ needs met/ coping/ problem solving/ goal attainment/ decision making,	Telehealth interventions: education, consultation, psychosocial/ cognitive behavioural therapy, social support, data collection and monitoring, and clinical care delivery. Video, telephone (call or text message), web-based info, telemetry/remote	Enhanced psychological health, higher satisfaction/confidence/preference/ comfort with telehealth. Improved caregiving knowledge/skills/ patient management, higher quality of life, more social support/social function/needs met. Improved coping/problem solving skills/goal attainment/decision-making, better communication with providers, more cost	Videoconferencing was most common; real-time interactions (supports delivery of various cognitive behavioural educational interventions). Technology can enhance caregiving experience & facilitate shared decision making by active involvement in process. Tools to access tailored information/ support are important when caregivers must make decisions/ proxy for patient. Caregivers can benefit from increased and efficient communication with healthcare providers or other caregivers.

	communication, quality of life	monitoring (electronic data collection)	savings, enhanced physical health, and productivity.	15 studies found that telehealth significantly improved the outcomes for caregivers who lived in rural areas.
Davis et al. (2018)	**Population:** Rural and low-income populations, US **Outcomes:** Effective-ness of various interventions on screening rates for colorectal cancer (CRC), community demand for services, community access for services	Strategies to increase CRC screening (FIT/FOBT); client reminder or recall; small media; one-on-one education; provider ordered in-clinic distribution; direct mail; pre-addressed stamped envelope provided; materials tailored for specific cultures or low literacy; kit available by participant request; systematic distribution by clinic staff study team	Strategies to increase community demand (i.e., client reminders) as well as to increase community access (i.e., direct mail, use of a pre-addressed stamped envelope, in clinic distribution) were intervention components commonly found in highly effective/effective study arms tested in clinic settings. The overall effectiveness of intensive outreach compared with minimal or automated phone/text outreach was not consistent across studies. No clear effect of the impact of small-media, one-on-one education, or screening kits for increasing community demand.	Stakeholders need to determine not just which interventions work to improve CRC screening, but which interventions would work best in their setting given specific patient populations, clinical settings, and community characteristics.
Gentry et al. (2019)	**Population:** Older adults **Outcomes:** Feasibility, accept-ability and cost effective-ness of psychiatric assessment & treatment modalities within telemental health (TMH)	Geriatric tele-mental health Videoconferencing (synchronous, interactive)	TMH for geriatric patients is feasible and well accepted in the areas of medical inpatient consultation, nursing home consultation, cognitive testing, dementia diagnosis and treatment, and psychotherapy. Limited evidence for depression in collaborative and integrated care models. Limited evidence for TMH in terms of cost-effectiveness.	Both cognitive screening measures and more extensive neuropsychological testing have been validated for use in TMH, with some concerns that motor dependent tasks such as clock drawing may present challenges, particularly under conditions of inadequate internet speed and connectivity.
Gwynn et al. (2019)	**Population:** Aboriginal and Torres Straight Islander Australians **Outcomes:** Body mass index (BMI), blood glucose and triglycer-ides, total cholesterol and ratio of total to high-density lipoprotein cholesterol	Nutrition interventions aiming to improve diet-related and health outcomes; nutrition education and promotion programs, store-based intervention with community-health promotion, return to traditional diet, fruit and vegetable subsidy, store environment or policy that included	Store-based interventions (including food price strategy) combined with community health promotion showed improvements in diet-related outcomes (6 studies tested for statistical significance); 3 studies showed improvements in some other health measure including BMI and other biochemical markers of good nutrition and health. Fruit and vegetable subsidy program showed statistically significant improvements in	Store-based interventions (including food price strategy) combined with community health promotion had the most successful outcomes in rural locations. Store-based and community promotion studies were successful in part because of their adoption of a strong ecological approach and moderate to strong community engagement in discrete communities. Strong evidence for approaches to addressing poor dietary intake that are multi-setting and multi-strategy.

		store/organization/government policy, food price discount and the effect of store manager on diet, and preschool meal program	children's biochemical/ haematological markers of nutrition and health outcomes. Nutrition education and health promotion programs showed potential at group education level. Return to traditional diet and lifestyle showed improvements in health indicators in short-run but reversed once the participants returned to less healthy diet.	
Hoeft et al. (2018)	**Population:** Rural areas in high income countries **Outcomes:** Delivery of mental health care services	Task sharing; interventions involving community health workers; interventions involving primary care providers and specialist support; support from telehealth for task sharing (i.e., in primary care and education)	Community Health Workers (CHWs) have been involved in mental health care delivery through community outreach (home visitation and door-to-door) and clinics. Roles often focus on health education and supporting care management and navigation. The evidence for incorporating CHWs in care in general, and in mental health care specifically, is sparse but there a potential for CHWs to increase access to care and facilitate more culturally sensitive care. Most primary care task sharing focuses on collaborative care involving primary care providers, nurses, medical assistants, pharmacists, social workers or counselors, psychologists, and psychiatrists. Telehealth can assist sharing of tasks through supporting care delivery with the help of a remote team member and through provider education. Specifically, telehealth can support nonmental health providers in primary care through either direct contact from a mental health specialist with the patient and their care team or via consult with these provider(s).	Consider forming partnerships with communities when implementing task-sharing programs. When developing and implementing interventions, partnerships allow for plans that are suitable to the local context and meet local needs. Task sharing may involve challenges related to boundaries, confidentiality, burnout, and staff turnover. It is important to clearly specify all relevant tasks involved and develop a systematic shared workflow to clarify how team members participate in and coordinate care. There should be clear communication with the team around any limits on tasks for different roles (e.g., CHWs) to avoid referral to these resources for something outside one's scope of practice. An influx of financial support may remedy some of the challenges of task sharing. Telehealth can be used to support providers' training, supervision, and support in communities that lack specialists.

Ito et al. (2017)	**Population:** Patients using telemedicine, Japan **Outcomes:** Identifying difference between English and Japanese literature on tele-medicine in Japan	Telemedicine (14 studies involved communication doctor-to-doctor, while 7 involved doctor and patient, other studies were patient to other healthcare provider communication) Videophones, mobile phones, remote monitoring, videoconferencing, electronic health records (EHRs)	Strong emphasis in research on prevention and lifestyle modification. Increasing trend of purpose-built telemedicine systems, including electronic medical record systems, remote monitoring systems, and smartphones (for real-time and store-and-forward communication).	Majority of studies involved rural and remote locations of Japan, indicating a significant emphasis on investigating the potential of telemedicine for providing healthcare to remote communities. Technology used in telemedicine for clinical purposes varies. Minimal research might be attributed to cultural feelings surrounding medical services, and high concerns over privacy and security amongst Japanese people. Systemic barriers restricting the growth of telemedicine are being resolved by the Japanese government; telemedicine is now considered an equivalent clinical intervention.
Khunti et al. (2015)	**Population:** Individuals screening for Type 2 diabetes (T2DM), international **Outcomes:** Response rates, yield rates, number of steps for screening	T2DM screening; Oral glucose tolerance test (OGTT)	61.7% used one-step screening approach, 23.4% used two-steps screening, 6.6% used three-step screening, 8.8% used four-step screening. Response rates for OGTT in proportion to those invited for test was higher in 3/4-step strategies than 1/2-step strategies (85.4% vs. 65%); One-step strategies had a higher overall T2DM yield (total number of cases detected at all steps); as number of steps increased, yield for high risk (T2DM and those at high risk of diabetes increased 25.8% for 1-step, 27.7% for 2-step, 75.3% for 3/4-step); use of invasive test did not have significantly different yield nor response rates. Method of invitation did not impact response rate.	Using a stepwise approach and additional initial screening test increases yield and decreases number needed to screen from OGTT, where this review confirms this and indicates this may have an impact on the cost-effectiveness of this recommendation. Though highest yield as observed in one-step studies, that is where OGTT is offered as general screening test to population, where it may lack cost-effectiveness (in comparison to those with T2DM or those at high risk of diabetes).
Kim et al. (2016)	**Population:** Vulnerable populations with chronic non-communicable conditions	Community-Based Health Worker (CBHW); Effects of CBWH interventions; qualifications and characteristics of CBHWs; cost outcomes (cost savings and cost-effectiveness)	Of the 30 studies that tested the effect of a CBHW-led intervention on cancer control, 21 studies (70%) found improvements in cancer screening behaviors. The trial with the largest increase in screening (33%) employed a multifaceted intervention that included 4 monthly CBHW-led, culturally tailored	Approaches for identifying and selecting CBHWs that demonstrated positive behaviors targeted within study populations include identification by community leaders, use of existing CBHWs in the community, use of participating churches or a community self-help organization, or community members.

	Outcomes: Patient outcomes and cost-effective-ness		counseling sessions and mailing of a postcard message tailored to the participant. Of the 9 studies that tested the effect of CBHW-led intervention on global cardiovascular disease (CVD) prevention, 5 (56%) studies found significantly greater improvements in lipid profiles, blood pressure, hemoglobin A1C, and global CVD risk for the CBHW-intervention group compared with the comparison group. There were mixed reviews for studies involving CBHWs to address issues related to cognitive functioning and mental reviews. Eight publications and 6 companion articles demonstrated that the use of trained, culturally competent CBHWs resulted in cost savings. There was insufficient evidence concerning the cost-effectiveness of CBHW interventions.	CBHWs with longer training (encompassing both knowledge- and competency-based training such as motivational interviewing and computer/internet skills) tended to take on additional roles including data collection, care management or coordination, and navigation assistance. When CBHWs received rigorous training, patient outcomes related to cancer prevention and cardiovascular risk reduction were significantly improved. Paid CBHWs tend to cover a wider scope of work, be more flexible in terms of scheduling, and produce the full impact of which they are capable. Failure to secure sustainable funding sources for CBHWs appears to be a major barrier to the full integration and maintenance of this model into health care delivery systems.
King & Sarrafz-adeh (2018)	**Population:** Patients with various diseases with symptoms measurable by inertia sensors (e.g., Seizures/gate disturbances) **Outcomes:** Health care application type, population type tested, experimental setting, number of participants type of study (feasibility)	Use of smartwatches; providing just-in-time feedback for quick intervention (e.g., medication uses for symptoms), communication directly with caregivers and physicians, and continuous data monitoring that promotes health	Most used software was Android-based watches; more affordable, have open-source code and documentation, and allow for WIFI support. One study on stroke patients found that smartwatches and all modalities were preferred for reminders. Other studies found that smartwatches were preferred when using smartphone technology was less convenient (during exercise/CPR).	Some studies showed that an LCD screen and a microphone could provide feedback to clients in addition to inertial sensing. In the chronic disease management studies smartwatches could monitor physical activities and behaviour from inertial sensors, where smartphones would not be carried. Sensors and complex classifications will be important in future clinical trials (e.g., temperature, skin impedance, type of food being eaten).
Lepard et al. (2015)	**Population:** Adults with type 2 diabetes living in rural areas	Interventions specifically designed to provide education and/or support for patients living	Few studies found difference in hemoglobin A1c; there was improvements in baseline levels in intervention group and improved self-efficacy.	Interventions that include motivational support and collaborative goal-setting informed by behavioural theories were associated with improved metabolic control and self-efficacy.

	Outcomes: Impact on glycemic control and other diabetes-related outcomes	with T2DM collaborative goal setting Video-conferencing telephone calls, or the internet, to deliver an intervention from a remote site	Both in-person and telehealth interventions based on theory and incorporated collaborative goal setting improved metabolic control. 4/7 studies reported improvements in knowledge and 4/8 studies found behavioral improvements between treatment and control. Support groups (in-person) had mixed outcomes of success, but greater number of contacts was associated with greater attendance and improved weight loss, and/or glycemic control.	Intervention dose was associated with better outcomes and higher adherence; interventions with more patient contact hours helped to improve outcomes for education. Videophone technology that connects to telephone jack and does not require internet access serves as a solution for patients who are not able to leave their homes to connect to the internet. Requiring patients to travel to their intervention were associated with lower retention rates.
McCollum et al. (2016)	**Population:** High, middle or low-income countries **Outcomes:** Access, utilization, quality, empowerment	Community-Based Health Workers (CBHW); equity in CBHW programs; features that influence equity	CBHWs are able to address both supply side barriers (aspects of health systems that hinder service uptake) and demand side barriers (factors influencing the ability to use health services at individual, household, or community level) to uptake of health service. Those living further from a health facility were found to be more likely to use CBHW services. There is minimal literature assessing the role of CBHWs in tackling social determinants for health; however, some studies have suggested that CBHW services reduced inequities according to gender, education, socio-economic position, age, and religion. There is no clear evidence for the equitable quality of CBHW services.	Proximity of a service to a household is a vital factor in reducing inequities relating to place of residence. However, when the CBHW was not a resident within the community or the intervention design did not vary the ratio of the number of households to the number of CBHWs for different geographic areas (mountain vs. plain), population dispersion, or intensity of tasks required of CBHWs, inequities persisted. Pre-requisite educational requirements within certain CBHW programs resulted in more CBHWs being recruited from and operating within communities with higher educational levels, thereby putting illiterate communities at a disadvantage.
Patel et al. (2019)	**Population:** Nurse practitioners, US **Outcomes:** Care delivery/access to care, characteristics of health delivery system, characteristics of	State-level nurse practitioner (NP) scope of practice (SOP) policy regulations; full (manage all aspects of patient care); reduced (physician supervision in some aspects of patient care); restricted (physician	More growth of number of NPs in states with least restrictive SOP policies; patients in states with the least restrictive NP SOP policies were more likely to have an NP as their primary care provider; NPs more likely to work in primary care versus specialty care in states with full SOP and 100% Medicaid	Studies assessing the impact of NP SOP policy on the NP workforce provide evidence that less restrictive NP SOP is positively associated with characteristics of the health delivery system related to the NP workforce. Findings of greater primary care services and decreased acute health services usage in states with less restrictive NP SOP policies is consistent with previous literature; evidence

	population-at-risk, utilization of services, patient satisfaction with care	supervision is required for all patient care)	reimbursement policies, but no difference seen in states with full SOP without 100% Medicaid reimbursement; NPs in states with less restrictive NP SOP policies reported better practice environments. In states with least restrictive NP SOP policies, NPs more likely to work in primary care, providing care in rural and high-poverty areas, and accept Medicaid. Greater use of preventative services and decreased rates of avoidable hospitalizations and readmissions (within 30 days from rehab) and nursing home patient hospitalizations in states with least restrictive NP SOP policies. A larger supply of NPs did not significantly affect healthcare utilization (without considering other state/patient-level factors). Regarding usual source of care and wait times, patient satisfaction was found to be worse with least restrictive NP SOP policies.	suggests that increased market competition is associated with higher quality over time, where care in community health centers may be better in states with less restrictive NP SOP policies (whether delivered by NP or physician). However, removing NP physician supervision requirements may increase utilization of patient referrals to physicians by NPs
Ruggiano et al. (2018)	**Population:** Caregivers of adults with dementia in rural settings **Outcomes:** Physical and mental health outcomes associated with providing dementia care; depression, burden, knowledge, self-efficacy, other psycho-social outcomes	Technology-based interventions; support groups, training programs through telephone, internet or mobile devices Type of technologies included basic telephone, web or video-based conferencing and networking, websites, videophones, and videos	Limited examination of dementia caregivers' experiences of such interventions in rural settings; little is known about dosage. Success adopting and implementing telehealth interventions for chronic disease management among rural patients suggests that technology-based interventions for dementia caregiving can be feasible and acceptable for rural caregivers. Many studies reported having positive effects on dementia caregivers' psychosocial outcomes; 4 studies reported decreased depression and/or anxiety.	Further research should examine how technologies can effectively improve caregiving, such as educating caregivers on how to perform regular tasks. Success in adopting/implementing telehealth interventions for rural chronic disease management suggests feasibility and applicability of technology-based interventions for rural caregivers of dementia.

			In one study novice caregivers reported decreases in stress after using a videophone intervention for 12 months.	
Ruiz-Perez et al. (2019)	**Population:** Patients with myocardial infarction, stroke and heart failure **Outcomes:** *Primary:* improve cardio-vascular disease; mortality, physical function	Organizational interventions; e.g., mobile coronary units, patient education, telemedicine Tele-stroke systems or tele-consultations, videoconferencing and data transmission	One trial found that a telestroke intervention associated with a significant reduction of mean onset-to-treatment time. Another found reduction in "death and dependency" at 12 months for stroke survivors. Multifaceted program with patient education (self-titration), open clinic access, and phone-based management reduced mortality. Multidisciplinary approach; medical and non-medical interventions, reduced heart failure (HF) hospitalization, and all-cause mortality.	Interventions consistently improved patient knowledge and self-management behaviour, but not mortality rates. Most successful interventions are multi-component, target-specific challenges, community based/culturally adapted. Multi-disciplinary team management of HF may decrease rehospitalization rates and mortality. Interventions for acute myocardial infarction successfully reduced treatment time for rural/remote patients. Telestroke systems enable access to specialized care in rural centers, increase in the number of ICTUS patients who can receive urgent neurological health care, and thrombolytic treatments.
Zhou et al. (2016)	**Population:** Primary care providers participating in Project ECHO (includes clinicians, pharmacists, nurse practitioners), Canada and the US **Outcomes:** Fidelity to original model, based upon the following criteria: initial training on Project ECHO (Extension for Community Health Outcomes) model received by participants prior to the learning sessions; duration of each teleconference learning session; use of combin-ation of didactic material and case presentations at each session; frequency of sessions	Project ECHO developed for rural New Mexico chronic disease management; reach (number of participants); provider satisfaction; change in provider knowledge; provider competence; provider performance; patient health; community health additional outcomes, cost-benefit analysis	All 13 studies containing data for healthcare satisfaction indicated that participants had a high level of satisfaction with the education program (may have been due to selection/participant bias since reported through post-program surveys and interviews). Four studies evaluating pre/post-test comparisons indicated an increase in knowledge after project participation. Eight studies evaluated primary care provider competence, where all but one study reported an increase in self-confidence (and 1 study with no significant difference). One study evaluating participant performance through delivery of outpatient care and medication initiation reported that ECHO pain management consultation was associated with increased use of physical medicine services.	The use of a teleconference-based model contributes to the potential cost-effectiveness and accessibility of Project ECHO, where many articles analyzed were of rural, remote, and/or underserved communities. Main barrier to project participation was lack of time, but also reported lack of financial incentive and inability to access videoconferencing technology. Primary care providers may want to participate in Project ECHO to save patients travel time and decrease healthcare and patient costs. Motivating factors to participate in project can be to increase one's knowledge base, obtain continuing medical education credits, prevent professional isolation, share new knowledge with colleagues. Facilitators to project participation include increase collaboration with specialists, applying new knowledge to future patients, and to "try something new".

	There were mixed results regarding disease-specific outcome changes from the ECHO program. No studies found reporting on community health outcomes. One study reported increased quality-adjusted life expectancy by 3.8 (SD 1.4) years per patient; mean savings of $1,352 per person; project cost of $8,300 per quality-adjusted life year gained; model for chronic liver disease indicates that patients can also save on travel distances (187 travel miles per person).	The average cost of project is well below the standard willingness-to-pay threshold per quality-adjusted life year gained in the US.

Commonly used acronyms: Body Mass Index (BMI), Cardiovascular Disease (CVD), Colorectal Cancer (CRC), Community-Based Health Workers (CBHW), Community Health Workers (CHWs), Extension for Community Health Outcomes (ECHO), Fecal Immunochemical Test (FIT), Fecal Occult Blood Test (FOBT), Heart Failure (HF), Ischemic Heart Disease (IHD), Nurse Practitioner (NP), Oral Glucose Tolerance Test (OGTT), scope of practice (SOP), Telemental Health (TMH), Type 2 Diabetes Mellitus (T2DM)

Appendix D: Summary of Jurisdictional Review

Healthcare Intervention	Details/Intervention Features	Setting/ Population Served	Outcomes Achieved	Practices to Achieve Outcomes
Sweden				
Esther Model	Model uses continuous quality improvement, cross-organizational communication, problem solving, and staff training to provide the best care for elderly patients with complex care needs[1] Inspired by an elderly patient named Esther who struggled with the complexity of the care system when she suddenly fell ill and had to rely on multiple providers to receive care[1] Main focus is determining "What is best for Esther?"[1]	Patients, clinicians, and other healthcare professionals across all healthcare sectors	Admission to medical department declined[1] Hospital readmissions drops 17.4 percent[1] Hospital lengths of stay decreased[1] Clients felt safe and were appreciative of personal contacts[1]	Cross-professional multi-professional meetings for sharing and learning from the experiences of patients[1] Inter-organizational training workshops Annual strategy day [1] "Esther coachers" (clinical and administrative staff) who become experts on the model[1]
Healthcare Guide 1177	Medical database that includes healthcare advice via telephone or online[2] Get information on diseases, treatments, rules, and rights[2] Find and compare health clinics and use e-services to contact healthcare services, request, cancel, or reschedule appointments or refill prescriptions[2] Access EHR online or over the phone (4)	General public in Sweden	Increase access to healthcare[2] Strengthen the position of the patient[2] Contribute to improved public health[2]	24/7 support across the country via telephone[2] Nurses answer questions over the phone to determine the need for further care[2] Secure system ensures confidentiality[2] All information is quality assured by experts, meaning patients trust that information is accurate[2]
Virtual Health Room (VHR) ehealth Initiative	Uses internet and medical technologies to provide basic primary health services in location where there is no or limited local access to a general practitioner[3] 7 VHR now exist[4] including facilities for teleconsultations, self-administered blood testing, and health checks[3]	Residents of Slussfors, Sweden (rural town)	Patients satisfied with VHR's technical performance of as well as overall role of VHR as an alternative to other means of accessing healthcare[3] VHR was seen as making adequate or minimally satisfactory contribution to healthcare and access to healthcare[3]	Those referred to the VHR by a health professional were more likely to think that the VHR improves access to health care than those who utilized it independently[3] Improving technical performance and confidence by changing VHR technologies and attempting to influence Patient

	Part of ERDF-funded project called "Innovation power for thinly populated areas"[4] Rooms have been renamed "society rooms" to broaden virtual healthcare concept[4]		Patients with lower levels of knowledge, skill and confidence in managing their own health were less likely to feel safe and confident in a VHR environment [3]	Activation Measure (PAM) is most likely to lead to increased use [3] May be need to engage populations often marginalized in technology development in design of VHR[3]
Intermountain Healthcare (IHC)				
Project ECHO	Model of medical education and care management to increase access to specialty treatment in rural and underserved areas[5] Front-line clinicians are linked to clinical teams from IHC through virtual conferencing technology[5]	Individuals in Utah, Wyoming, and Idaho; emphasis on underserved and rural areas	Increases capacity in primary care, provides opportunities for specialist mentoring, and improves quality of care and provider education and satisfaction [6] Low-cost and effective model of care in resource-constrained settings [7-9]	Improve access to specialty care, allowing patients to be treated by their own providers and reduce travel to specialists[5] Curriculum relevance and practicality, innovative learning approaches, active participation, relationship-building are viewed as integral aspects of the program[10]
Connect Care Pro	"Virtual Hospital" merging 35 telehealth programs and more than 500 health care professionals[11] Provides basic medical care, provides crisis and critical care, newborn critical care, medical oncology, and stroke care services[12]	Individuals in Utah, Wyoming, and Idaho; emphasis on underserved and rural areas.	Increase access to care, lower costs, and improve patient experience[12] Telehealth program for newborns at 8 Intermountain hospitals was associated with estimated cost savings of $1.2 million in one year [13]	Keep patients out of acute care settings by providing access to care in homes, clinics, and local communities[11] Offers Provider Support Services, including Clinical Coordination teams, Flight teams, and Transfer Center and Patient Placement programs[14]
Australia				
Rural Health Multidisciplinary Training Program (RHMT)	Consolidation of federal government-funded clinical education initiatives aimed at encouraging recruitment and retention of rural and remote health professionals to increase rural healthcare capacity and access[15]	Initiatives targeted at aspiring and current health professionals, already residing in or interested in practising in rural areas[15]	Outputs include providing training experiences for health students, developing an evidence base for the efficacy of rural training strategies, improving Aboriginal and Torres Strait Islander health, increasing the number of health and medical students of rural origin, and maximizing the investment of program funds in rural, regional and remote areas to maintain established academic networks focusing on training the rural health workforce[15]	Initiatives involve establishing a network of Rural Clinical Schools and University Departments of Rural Health, as well as providing extended clinical placements in rural areas for metropolitan dental schools[15]

Rural Health Outreach Fund (RHOF)	Federal funds distributed between the six Australian states to support services related to four priority areas: (1) chronic disease management, (2) eye health, (3) maternity and pediatric health, and (4) mental health[15]	State-level departments of health, which oversee healthcare delivery[15]	Overall goal is to improve access to medical specialists, primary care providers, and allied and other health providers in rural and remote areas[15]	Improve access by investing into regional health services related to the four identified priority areas[15]
Rural Locum Assistance Program (Rural LAP)	Consolidation of three schemes: the Nursing and Allied Health Rural Locum Scheme (NAHRLS), the Rural Obstetric and Anaesthetic Locum Scheme (ROALS), and the Rural Locum Education Assistance Program (Rural LEAP)[15]	Rural and urban health professionals interested in continuing medical education opportunities with a rural focus[15]	Overall goal is to support the existing health workforce in rural locations and increase capacity[15]	Increase healthcare capacity in rural areas by enabling access to continuing professional development for eligible rural health professionals, as well as urban health professionals wishing to experience rural or remote practice through placements[15]

Sources: [1]The Commonwealth Fund, 2019; [2]1177 Vårdguiden, 2015; [3] Näverlo et al., 2016; [4]European Commission, n.d. ; [5]Intermountain Healthcare, n.d.-d; [6]The University of Utah, n.d.; [7]Hariprasad et al., 2018; [8]Rattay et al., 2017; [9]Theodore et al., 2015; [10]Shimasaki et al., 2019; [11]Intermountain Healthcare, 2018;[12] Intermountain Healthcare, n.d.-b; [13]Albritton et al., 2018; [14]Intermountain Healthcare, n.d.-c; [15]Department of Health, 2017

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