

CADTH Health Technology Review

Rural Health Care Planning Initiatives and Frameworks

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Key Messages

- A targeted search was conducted to identify rural health care service planning initiatives and programs, frameworks for planning rural health care service delivery, and models of care used to deliver rural health care services.
- Identified planning initiatives and programs included team-based care, financial incentives for care providers, programs for international medical graduates to practice in rural areas, and new models of care.
- Identified frameworks and recommendations for planning rural health care service delivery included components such as taking a community-specific approach, multidisciplinary team-based care, developing and expanding use of telehealth, establishing evaluation methods, and improving the recruitment and retention of health care providers in rural areas.
- Identified proposals for models of care for rural areas included team-based care, models led by community health workers, and alternatives for hospitals.

Context

People living in rural areas often face challenges when accessing quality health care, including geographic barriers, limited availability of health care personnel and services, and difficulties recruiting and retaining health care providers.^{1,2} To respond to these challenges, various types of initiatives have been implemented to improve health service delivery to rural areas. Planning frameworks and models of care have also been proposed for how to provide rural health care services.

The purpose of this report is to provide a list and summary of planning initiatives (in Canada, Australia, or the UK); planning frameworks; and models of care for providing health care in rural areas, particularly emergent, urgent, and community care.

Research Questions

1. What are rural health care service planning initiatives under way in Canada, Australia, or the UK?
2. What frameworks or models of care exist for planning rural health care service delivery?

Methods

This report is not a systematic review and does not involve critical appraisal or include a summary of study findings. Rather, it presents an annotated list of citations and summary of the key components of planning initiatives, planning frameworks, and models of care related to rural health care service delivery. This report is not intended to provide recommendations for or against a particular intervention.

Literature Search Methods

A targeted literature search was conducted by an Information Specialist in MEDLINE, as well as a focused internet search. Search terms included rural and remote health, as well as initiatives, programs, care models, strategies, and planning. The search was limited to English-language documents published between January 1, 2012, and August 30, 2022.

Selection Criteria and Methods

One reviewer screened citations and selected studies. In the first level of screening, titles and abstracts were reviewed and potentially relevant articles were retrieved and assessed for inclusion. The final selection of full-text articles was based on the inclusion criteria presented in [Table 1](#). For this report, a framework was defined as guidance regarding what to consider while planning rural health care; this could include a list of items to consider, or a step-by-step process. Reports that did not provide a framework but listed specific recommendations to improve rural health care service delivery were also included. Initiatives that included models of care (e.g., testing a new type of primary care model) were classified as initiatives.

Exclusion Criteria

Articles were excluded if they did not meet the selection criteria outlined in [Table 1](#), they were duplicate publications, or they were published before 2012. Reports focused on specialist care, and education-related initiatives and recommendations were also excluded. If articles reported on included and excluded topics (e.g., primary care and specialist care, or recommendations regarding financial incentives and education), the article was included but the excluded topic(s) were not summarized. Additional references of potential interest that did not meet the inclusion criteria are provided in [Appendix 1](#).

Overall Summary

This report identified 68 reports. For rural health care service delivery initiatives in Canada, 2 reports summarized policies from multiple provinces and/or territories^{2,3}; other reports summarized initiatives in Alberta,⁴ British Columbia,⁵⁻⁹ and Ontario.^{10,11} Initiatives were also identified in Australia and the UK.^{12,13} Frameworks or recommendations for planning rural health care were described by 31 reports.^{1,2,12,14-41} Proposed models of care and general descriptions of models were described by 6 reports.⁴²⁻⁴⁷

Table 1: Selection Criteria

| Criteria | Description |
|----------------------|---|
| Population | Q1 and Q2: People living in rural areas accessing health care services (particularly for emergent care, urgent care, and community care) |
| Intervention | Q1: Rural health care service planning initiatives under way in Canada, Australia, or the UK Q2: Frameworks or models of care for planning rural health care service delivery |
| Types of information | Q1: Identification and description of rural health care service planning initiatives Q2: Identification and description of frameworks or models of care for planning rural health care |

Q = question.

Rural Health Care Service Planning Initiatives

Identified initiatives included:

- financial incentives and assistance
- use of technology (e.g., telehealth, electronic health records)
- programs for international medical graduates to practice in rural areas
- alternative models of care, including team-based care, locum services, and models where non-physician health care providers (e.g., nurses, paramedics) provide a larger range of services.

Some initiatives outlined special considerations for, or were focused on, specific population groups, including older patients, patients with complex care needs, and Indigenous people.

Frameworks and Proposed Models of Care for Planning Rural Health Care Service Delivery

Frameworks for Planning Health Care Service Delivery

From the identified frameworks, topics covered by the guidance included:

- knowing that each community is different, and that a one-size-fits-all approach will not work; developing and/or choosing an appropriate strategy requires a clear understanding of the specific community, including:
 - population characteristics (e.g., age, ethnic or cultural groups, socioeconomic factors)
 - local attributes (e.g., health services, technology, infrastructure, local industries)
 - health issues and needs
- taking a multidisciplinary approach with multisectoral collaboration, including the community, when planning
- creating a communication strategy for consistent messaging to the community
- developing clear processes for accountability and evaluation.

Topics covered by the recommendations and strategies to improve health care service delivery in rural areas included:

- interprofessional models for team-based care and other collaborative models
- expanding the role of non-physician health care providers
- improving and expanding telehealth, including providing training and resources
- investing in rural health research and innovation
- improving the recruitment and retention of health care providers.

Some frameworks and recommendations also provided Considerations for specific population groups, including Indigenous people and older people.

Proposed Models of Care for Rural Health Care Service Delivery

This section includes proposals for models of care and general descriptions of models of care from the US, including:

- team-based models
- hub-and-spoke models

- models where community health workers assist with providing care
- as alternatives to hospitals: emergency-only or urgent care clinics, with support from primary care or outpatient clinics.

Annotated Reference List

A total of 68 reports¹⁻⁶⁸ were included in the current report. Initiatives for rural health care service are summarized in [Table 2](#) (Canadian initiatives) and [Table 3](#) (initiatives in Australia and the UK). Frameworks to help plan rural service delivery are summarized in [Table 4](#), while reports that did not provide a framework but provided potentially relevant recommendations to improve rural health care service delivery are summarized in [Table 5](#). Proposed models of care for providing health care services in rural areas are summarized in [Table 6](#). Further details can be found by consulting the full texts, which are linked in the references where applicable.

Table 2: Service Planning Initiatives for Rural Health Care in Canada

| Citation | Criteria | Description |
|---|---|--|
| Financial incentives for health care providers | | |
| Bosco and Oandasan – Review of Family Medicine Within Rural and Remote Canada: Education, Practice, and Policy ² | Jurisdiction | Canada |
| | Type of care | Family medicine |
| | Brief description of initiative | <p>In Canada, various financial initiatives have been implemented for family medicine rural practices:</p> <ul style="list-style-type: none"> • regionally differentiated payment (i.e., increased payment in rural areas) • alternative payment mechanisms (e.g., salaried) • specific grants (provided to physicians practising in rural areas) <p>Other financial incentives include:</p> <ul style="list-style-type: none"> • financial support for establishing practices in rural areas • grants supporting relocation, special travel allowances • locum programs to provide rural physicians with coverage • targeted payments to support on-call duty in rural areas |
| | Considerations for specific population groups | NR |
| | Assessments of effectiveness | There is limited evidence regarding how to use these alternative payment models effectively (e.g., if paying more to work in rural areas, what is the “best” level of payment to maximize recruitment or retention?), and some argue these do not provide adequate compensation for the workload and demands. Similarly, the other initiatives have limited formal evaluations of their effectiveness. |

| Citation | Criteria | Description |
|---|---|--|
| Rural Coordination Centre of BC – Grants and Awards ⁹ | Jurisdiction | British Columbia |
| | Type of care | Unclear; applicable to rural physicians |
| | Brief description of initiative | <ul style="list-style-type: none"> • BC Rural Health Awards: a collection of awards to recognize contributions of BC rural community providers • Multiple grants for rural physicians and physician-researchers also available |
| | Considerations for specific population groups | RGHPI states that they are interested particularly in improved health outcomes for underserved, marginalized, and Indigenous populations. |
| | Assessments of effectiveness | NR |
| Ontario Ministry of Health and Ministry of Long-Term Care – HealthForceOntario Northern and Rural Recruitment and Retention Initiative Guidelines ¹⁰ | Jurisdiction | Ontario; any rural area based on the Rurality Index for Ontario score |
| | Type of care | Primary care or specialist care |
| | Brief description of initiative | Provides a taxable financial incentive to eligible physicians who establish a full-time practice in an eligible community, paid over a 4-year period |
| | Considerations for specific population groups | NR |
| | Assessments of effectiveness | NR |
| Locum services | | |
| Alberta Medical Association – Physician Locum Services ⁴ | Jurisdiction | Alberta |
| | Type of care | Primary, specialists |
| | Brief description of initiative | Payment for physicians who provide weekend, short-term, or seniors' coverage, and locum physicians who provide rural or regional locum coverage full- or part-time |
| | Considerations for specific population groups | NR |
| | Assessments of effectiveness | NR |
| University of Toronto – Rural Northern Initiative ¹¹ | Jurisdiction | Ontario |
| | Type of care | Family medicine |
| | Brief description of initiative | Faculty from the University of Toronto's Department of Family and Community Medicine visit participating communities for 2-week locum style visits with a family medicine resident; remunerated for participation by the Ministry of Health |

| Citation | Criteria | Description |
|---|---|---|
| | Considerations for specific population groups | NR |
| | Assessments of effectiveness | NR |
| Programs for international medical graduates | | |
| Practice Ready Assessment – Physicians for BC – Practice Ready Assessment BC Program ⁶ | Jurisdiction | British Columbia |
| | Type of care | Primary |
| | Brief description of initiative | An assessment program for international medical graduates who completed residencies in Family Medicine; physicians who meet program requirements work for 3 years in a BC rural community, giving them a path to licensure |
| | Considerations for specific population groups | NR |
| | Assessments of effectiveness | NR |
| Telehealth and technologies | | |
| Rural Coordination Centre of BC – Real Time Virtual Support ⁷ | Jurisdiction | British Columbia |
| | Type of care | Emergency, pediatrics, maternity and newborn, dermatology, hematology, myofascial pain, post-COVID-19 clinic referral, rheumatology, thrombosis, neurology |
| | Brief description of initiative | Connects rural health care providers and patients to Real-Time Virtual Support (RTVS) virtual physicians via video call or telephone, via 2 separate pathways: <ul style="list-style-type: none"> • for health care providers: free support for all patient cases (e.g., case consultations, second opinions, ongoing patient support); includes 24/7 access for emergency, pediatrics, maternity and newborn care; others are available weekdays during regular business hours • for patients: connects to several virtual physician options |
| | Considerations for specific population groups | The First Nations Virtual Doctor of the Day and First Nations Virtual Substance Use and Psychiatric Service pathways offer care to BC First Nations people and their families. |
| | Assessments of effectiveness | The program states that the provider pathway helps to build a stronger community of practice, increase confidence, reduce isolation, and improve recruitment and retention; while the patient pathway increases availability and access to timely, quality health care services, thus reducing patients' risk, time, and expenses for travelling to medical appointments. However, it is unclear how these conclusions were made. |

| Citation | Criteria | Description |
|--|---|--|
| Rural Coordination Centre of BC – Rural Personal Health Record (PHR) ⁸ | Jurisdiction | British Columbia |
| | Type of care | Unclear; likely includes primary care, possibly other types of care |
| | Brief description of initiative | <ul style="list-style-type: none"> • Personal Health Record (PHR): an integrated electronic health system that allows people to access and manage their health information • Could facilitate partnerships and team-based care; prevent errors or gaps that can occur when information is not easily shared between care providers and health authorities |
| | Considerations for specific population groups | NR |
| | Assessments of effectiveness | NR |
| BC Rural Health Centre – Rural Health Initiatives in BC – Telehealth and Critical Outreach and Diagnostic Intervention (CODI) ⁵ | Jurisdiction | British Columbia |
| | Type of care | Primary, emergency |
| | Brief description of initiative | <ul style="list-style-type: none"> • In 2010, pilot project began: family physicians regularly meet with patients and consult with local nurses in rural or remote communities via video conference; installed state-of-the-art videoconferencing equipment, telehealth devices • First Nations Health Authority launched Telehealth Expansion Project in 2013 to allow more Indigenous communities to get involved in telehealth • In 2017, work began on developing CODI, a secure smartphone app that can directly connect a rural physician in the ED to an intensivist on-demand |
| | Considerations for specific population groups | The First Nations Health Authority has a project to help Indigenous communities get involved in telehealth. |
| | Assessments of effectiveness | Positive feedback from nurses working in rural areas regarding the original pilot project; project states that “time and evaluation will determine the true positive outcomes of CODI” but does not specify what outcomes will be evaluated |
| Models of care | | |
| Canadian Home Care Association – Integrated Home Care and Primary Health Care – Alberta ³ | Jurisdiction | Alberta |
| | Type of care | Primary, home, urgent |
| | Brief description of initiative | Central Zone of Alberta Health Services interacts with 14 primary care networks (PCNs), with streamlined access to home care services through centralized call centre and 1 access number for all continuing care services. Includes the following programs: |

| Citation | Criteria | Description |
|---|---|--|
| | | <ul style="list-style-type: none"> • Mobile Integrated Health care Community Paramedic Program: team-based care where community paramedics are integrated into primary care, allowing non-emergent medical care to be provided at home • Intensive Home Care and Community Support Team: provides home care, self-help services, access to and facilitation of senior-friendly housing, and coordinates support post-discharge for complex patients for up to 24 hours • Palliative Resource Nurse Program: nurse practitioners can provide holistic end-of-life services closer to home (or other setting of patient's choosing) |
| | Considerations for specific population groups | Some programs are aimed to help older patients, complex patients, patients who are considered vulnerable and/or have mobility challenges, and palliative patients. |
| | Assessments of effectiveness | Both the Mobile Integrated Health Care Community Paramedic Program and Palliative Resource Nurse Program are reported to reduce ED visits. |
| Canadian Home Care Association – Integrated Home Care and Primary Health Care – British Columbia ³ | Jurisdiction | British Columbia |
| | Type of care | Primary, home |
| | Brief description of initiative | Specialized Community Services Program: coordinates care for patients with complex needs and older adults living with frailty (e.g., dementia); includes comprehensive care management, community nursing, allied health services, home support, long-term care, and palliative care. Not specific to rural areas, but will embrace a flexible approach for customization in rural areas |
| | Considerations for specific population groups | The program is aimed at complex care patients. |
| | Assessments of effectiveness | NR |
| BC Rural Health Centre – Rural Health Initiatives in BC – Gabriola Health Care Foundation ⁵ | Jurisdiction | British Columbia |
| | Type of care | Primary, emergency, mental health, home care nursing, dental, surgery |
| | Brief description of initiative | A volunteer-led community health centre that provides access to 3 family physicians, emergency care, allied health professionals, and some specialists that have developed focused efforts on preventive programs for the community |
| | Considerations for specific population groups | NR |
| | Assessments of effectiveness | NR |

| Citation | Criteria | Description |
|--|---|---|
| BC Rural Health Centre – Rural Health Initiatives in BC – Primary Care Networks ⁵ | Jurisdiction | British Columbia |
| | Type of care | Primary |
| | Brief description of initiative | <ul style="list-style-type: none"> • PCNs: clinical networks of primary care providers in a geographical area, based on patient medical homes (team-based family practices⁶⁹) • Physicians work with other care providers, health authority service providers, and community organizations to provide all primary care services required by the local population, through a team-based approach to care and linking patients to other parts of the system • Represent systems change in the community, governed and supported by division-health authority partnership and community partners |
| | Considerations for specific population groups | The program is designed to link patients to other parts of the system, including linking vulnerable patient groups (e.g., frail elderly patients, those with mental health issues, and those with substance use issues) to the health authority's specialized community programs. |
| | Assessments of effectiveness | NR |

BC = British Columbia; CODI = Critical Outreach and Diagnostic Intervention; ED = emergency department; NR = not reported; PCN = primary care network; PHR = Personal Health Record; RGHPi = Rural Global Health Partnership Initiative; RTVS = Real-Time Virtual Support.

Table 3: Service Planning Initiatives for Rural Health Care in Australia and the UK

| Citation | Criteria | Description |
|--|---------------------------------|--|
| General plan – multiple components | | |
| The Australian College of Rural and Remote Medicine Compact With the Commonwealth Government ⁶⁴ | Jurisdiction | Australia |
| | Type of care | General (primary), mental health |
| | Brief description of initiative | Plans for the Australian College of Rural and Remote Medicine to work with the government include: <ul style="list-style-type: none"> • conducting policy reviews and implementing reforms to address rural workforce distribution • developing remuneration and incentive structures that recognize the expanded scope and demands of rural practice and encourage retention • continuing to support rollout of telehealth to build strong health care teams and promote high-quality practice, and continuing to innovate and adopt other digital health strategies |

| Citation | Criteria | Description |
|---|---|--|
| | | <ul style="list-style-type: none"> • developing and implementing a range of strategies to improve access to mental health services • developing quality standards and innovative models of care to support health care providers at all stages in their career and enable them to thrive in rural and remote practices |
| | Considerations for specific population groups | NR |
| | Assessments of effectiveness | The program states that they plan to develop quality standards. |
| Financial incentives for health care providers | | |
| Australian Government Department of Health and Aged Care – Rural Other Medical Practitioner (ROMPs) program ⁴⁹ | Jurisdiction | Australia |
| | Type of care | Primary |
| | Brief description of initiative | Eligible doctors without fellowships can receive higher Medicare rebates for providing GP services in specified rural areas |
| | Considerations for specific population groups | NR |
| | Assessments of effectiveness | NR |
| Australian Government Department of Health and Aged Care – Rural Bulk Billing Incentives ⁵³ | Jurisdiction | Australia |
| | Type of care | Unclear; may apply to all doctors |
| | Brief description of initiative | Pays higher benefits to regional, rural, and remote doctors to bulk-bill children under 16 years old or patients with a Commonwealth concession card, with higher payments for more remote locations |
| | Considerations for specific population groups | The program is focused on children and people with a Commonwealth concession card (may include people on a pension, certain social security programs, low-paid workers, and so on). ⁷⁰ |
| | Assessments of effectiveness | NR |
| Australian Government Department of Health and Aged Care – Rural Health Outreach Fund ⁵⁴ | Jurisdiction | Australia |
| | Type of care | Primary (general), allied and other health providers, medical specialties |

| Citation | Criteria | Description |
|---|---|--|
| | Brief description of initiative | Financial support for providing outreach services in rural areas; for example: <ul style="list-style-type: none"> • costs for providing outreach services, such as travel and accommodation • backfilling salaried health professionals • locum funding for private health professionals |
| | Considerations for specific population groups | NR |
| | Assessments of effectiveness | NR |
| Australian Government Department of Health and Aged Care – Workforce Incentive Program ⁵⁷ | Jurisdiction | Australia |
| | Type of care | Primary |
| | Brief description of initiative | Financial incentives program, featuring 2 streams: <ul style="list-style-type: none"> • Doctor stream: for eligible doctors who practice in regional, rural, and remote communities <ul style="list-style-type: none"> ◦ payments depend on activity levels in eligible areas, as well as how long the doctor has been part of the program ◦ uses 2 payment systems: (1) Central Payment System, for eligible services under the Medicare Benefits Schedule, and (2) Flexible Payment System, for services and/or training not in the Medicare Benefits Schedule • Practice stream: for general practices that engage other health professionals (e.g., nurses, allied health professionals, Indigenous [Aboriginal and Torres Strait Islander] health workers and practitioners), based on the practice's needs <ul style="list-style-type: none"> ◦ payments assist practices with cost of engaging eligible health professionals (not all costs) |
| | Considerations for specific population groups | Aboriginal Medical Services and Aboriginal Community Controlled Health Services are eligible for the Practice stream benefits. |
| | Assessments of effectiveness | NR |
| Australian Government Department of Health and Aged Care – Stronger Rural Health Strategy ⁵⁸ | Jurisdiction | Australia |
| | Type of care | Unclear |
| | Brief description of initiative | A 10-year strategy starting in 2018 that includes a range of incentives and initiatives; some specific programs are described elsewhere in this table (e.g., the Workforce Incentive Program and Royal Flying Doctor Service). |

| Citation | Criteria | Description |
|---|---|--|
| | | Other changes include: <ul style="list-style-type: none"> • increasing base rates by 20% for standard consultations by non-vocationally recognized doctors in regional, rural, and remote areas • support for Aboriginal and Torres Strait Islander health professional organizations |
| | Considerations for specific population groups | Additional support for Aboriginal and Torres Strait Islander health professional organizations is available. |
| | Assessments of effectiveness | NR |
| Financial support for communities | | |
| Australian Government Department of Health and Aged Care – Primary Care Rural Innovative Multidisciplinary Models (PRIMM) ⁵⁰ | Jurisdiction | Australia |
| | Type of care | Primary |
| | Brief description of initiative | <ul style="list-style-type: none"> • Goal: to develop a “trial-ready” multidisciplinary primary care model that will work for the community’s specific needs • Provides funding to help rural communities analyze their primary health care needs and design models of care, support service design, community consultations, data analysis, financial model design; builds on and integrates existing resources within the community • Encourages towns to work together and share primary care services |
| | Considerations for specific population groups | NR |
| | Assessments of effectiveness | It is noted that a goal is to share findings with other rural communities to help them design their own model. |
| Australian Government Department of Health and Aged Care – Rural Health Workforce Support Activity ⁵⁵ | Jurisdiction | Australia |
| | Type of care | Primary |
| | Brief description of initiative | Provides support to recruit and retain GPs and health professionals for rural and remote areas; for example: <ul style="list-style-type: none"> • helping communities recruit health professionals • finding appropriate placements for health professionals who want to relocate • assisting with relocation costs |

| Citation | Criteria | Description |
|--|---|---|
| | | • helping health professionals access necessary infrastructure, support, training |
| | Considerations for specific population groups | NR |
| | Assessments of effectiveness | An independent review of the program was published in 2020 that assessed its appropriateness, effectiveness, efficiency, and engagement. They state that this review and its recommendations will inform future design and funding. |
| Programs for international medical graduates | | |
| Australian Government Department of Health and Aged Care – Five Year Overseas Trained Doctors Scheme ⁴⁸ | Jurisdiction | Australia |
| | Type of care | General (primary) |
| | Brief description of initiative | Offers incentives to eligible overseas-trained doctors and foreign graduates of accredited medical schools to work in rural and remote areas: typically, they must work in a designated priority area for at least 10 years, but this program allows them to reduce this period |
| | Considerations for specific population groups | NR |
| | Assessments of effectiveness | NR |
| Australian Government Department of Health and Aged Care – Visas for GPs Program ⁶⁰ | Jurisdiction | Australia |
| | Type of care | Primary |
| | Brief description of initiative | Redirects international medical graduates to areas where they are most needed, typically regional, rural, and remote areas |
| | Considerations for specific population groups | NR |
| | Assessments of effectiveness | NR |
| Locum and outreach services | | |
| Australian Government Department of Health and Aged Care – Royal Flying Doctor Service program ⁵² | Jurisdiction | Australia |
| | Type of care | Primary, mental health outreach |

| Citation | Criteria | Description |
|---|---|---|
| | Brief description of initiative | <ul style="list-style-type: none"> Provides access to essential primary health care, emergency aeromedical evacuation services, medical consultations and supplies, and dental and mental health outreach services Services include primary health clinics (including general practitioner, nursing, and allied health services), and remote consultations (telephone or videoconference) |
| | Considerations for specific population groups | NR |
| | Assessments of effectiveness | NR |
| Australian Government Department of Health and Aged Care – Rural Locum Assistance Program (Rural LAP) ⁵⁶ | Jurisdiction | Australia |
| | Type of care | Eligible for multiple health professionals, including GPs, nurses, pharmacists, and other specialties |
| | Brief description of initiative | Recruits locums and covers associated expenses (accommodation, travel, meals, and daily allowances) so health services and practices only need to pay the base locum rate, thus enabling rural and remote health care providers to take leave while ensuring ongoing service delivery |
| | Considerations for specific population groups | NR |
| | Assessments of effectiveness | NR |
| Telehealth and technologies | | |
| Queensland Health – Digital Strategy for Rural and Remote Health Care ⁶¹ | Jurisdiction | Queensland (Australia) |
| | Type of care | Primary, community, emergency, inpatient, aged care |
| | Brief description of initiative | <p>A 10-year plan to develop digital infrastructure and strategies:</p> <ul style="list-style-type: none"> digital foundations: includes the development of reliable connectivity and systems; other steps include developing secure and safe systems, setting up needed equipment, developing user-friendly devices and interfaces personalized care: development of patient portals, mobile applications, wearables, connected monitoring, and a digital health hub integrated care: modernize referral processes, develop telehealth and longitudinal patient records virtual care: develop and implement virtual home-- |

| Citation | Criteria | Description |
|---|---|---|
| | | based care and digital point of care devices, virtual care centres, virtual critical care |
| | Considerations for specific population groups | NR |
| | Assessments of effectiveness | It will require clinically led assessment and prioritization to design appropriately phased implementation, and will develop a detailed roadmap including accountabilities for involved organizations and measures of success for each strategic area. |
| APS Group Scotland – A National Telehealth and Telecare Delivery Plan for Scotland to 2015: Driving Improvement, Integration and Innovation ¹³ | Jurisdiction | UK – Scotland |
| | Type of care | Unclear |
| | Brief description of initiative | <p>Outlines plans to expand use of telehealth, including:</p> <ul style="list-style-type: none"> • improving and integrating health and social care: e.g., expanding home health monitoring, designing integrated care pathways, increasing use of telehealth and other digital tools • enhancing well-being: e.g., expanding use of telehealth for tenants and residents, co-designing and co-producing telehealth solutions with users, patients, and care providers • empowering people: e.g., raising awareness of telehealth's potential • improving sustainability and value: evaluation and improvement activities • supporting economic growth: e.g., establishing a Digital Health and Care Innovation Centre to support technology-enabled integrated care • exchanging learning, develop and embed good practice: e.g., linking with leaders in telehealth research and evaluation, developing resources to support awareness and good practices |
| | Considerations for specific population groups | A priority activity is developing tools and materials to enable people with disabilities and long-term health and care issues to comfortably and confidently use telehealth to support their lifestyles. |
| | Assessments of effectiveness | <p>The program outlines plans for assessment, including:</p> <ul style="list-style-type: none"> • identifying a single point of contact for strategic responsibility for telehealth service development • establishing a national approach to measurement and evaluation • expanding a procurement framework to support |

| Citation | Criteria | Description |
|---|---|---|
| | | improvements in efficiency, quality, and integration of telehealth data, equipment, and services. |
| Models of care | | |
| Australian Government Department of Health and Aged Care – Primary Health Networks ⁵¹ | Jurisdiction | Australia |
| | Type of care | Primary |
| | Brief description of initiative | <ul style="list-style-type: none"> • Independent organizations to coordinate primary health care in their region; they do not provide health services, but instead commission health and support services to improve efficiency, e.g., coordinating with care providers so people can get care in different regions, increasing cultural awareness and competency, encouraging use of digital health systems • Involves various stakeholders in decision-making, including skill-based boards, GP-led councils, and community advisory committees • Uses people-centred approach to assess a region's health needs and assets • Each region uses a different model to meet their needs, but is guided by national priorities set by the Australian government, program grant guidelines, and a needs assessment guide • Funding done through a grant process |
| | Considerations for specific population groups | <ul style="list-style-type: none"> • Additional program funding is available for Indigenous health. • The needs assessment should involve an explicit consideration of populations with special needs to identify inequities specific to the region (e.g., minimal health literacy for immigrant communities). |
| | Assessments of effectiveness | The Department of Health and Aged Care evaluates how the funded activity contributed to PHN program's objectives; funding recipients will be required to provide information during the funding period to assist with this evaluation. ⁷¹ |
| Australian Government Department of Health and Aged Care – Strengthening The Role of the Nursing Workforce Initiative ⁵⁹ | Jurisdiction | Australia |
| | Type of care | Primary |
| | Brief description of initiative | Program to strengthen nursing workforce; includes education initiatives as well as building nurse capacity clinics, which recruit and support primary health care |

| Citation | Criteria | Description |
|---|---|--|
| | | organizations to start models of care delivered by teams of nurses |
| | Considerations for specific population groups | NR |
| | Assessments of effectiveness | NR |
| Australian College of Nursing – Improving Health Outcomes in Rural and Remote Australia: Optimising the Contribution of Nurses ⁶⁵ | Jurisdiction | Australia |
| | Type of care | Primary |
| | Brief description of model of care | Summarizes models of care through case studies of nurse-led initiatives, including: <ul style="list-style-type: none"> • Swan Hill District Health Refugee Health Nurse Program: drop-in program for people who may be unable to attend set appointments • Nurse practitioner-led service: nurse practitioners offer high level of care to prevent chronic conditions, including comprehensive clinical assessments, investigations and diagnosis, therapeutic interventions, referral to other health professionals, and interpretation and evaluation of care; follows standard treatment plans, reviewed by medical officers at follow-up |
| | Considerations for specific population groups | Swan Hill District Health Refugee Health Nurse Program: aimed at refugees, set up after a number of refugees from Afghanistan settled in the area. |
| | Assessments of effectiveness | Swan Hill District Health Refugee Health Nurse Program: led to successfully engaging people to agree to referrals for follow-up needs identified during nurse-led consultations. |
| Fitzpatrick et al. – Coordinating Mental and Physical Health Care in Rural Australia: An Integrated Model for Primary Care Settings ⁶⁶ | Jurisdiction | Australia – New South Wales |
| | Type of care | Primary, mental health |
| | Brief description of model of care | <ul style="list-style-type: none"> • Provides comprehensive primary care to patients through a monthly clinic run by a local GP, with appointments managed by the community mental health team (a multidisciplinary team with mental health nurses, a social worker, and a psychologist) • Community mental health team, patient, family and/or carers, GP, and psychiatrist develop a care plan based |

| Citation | Criteria | Description |
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| | | <p>on the patients' main issues and needs, including goals, treatment, referral pathways, and plans for crisis intervention and/or relapse prevention</p> <ul style="list-style-type: none"> • Involves regular case reviews with multiple team members |
| | Considerations for specific population groups | Patients include people with psychiatric or mental disorders. |
| | Assessments of effectiveness | <ul style="list-style-type: none"> • Over a 2-year period, 65 individuals attended the clinic. • The program reported the number of sessions attended (patients with psychotic disorders are among the most difficult to engage in primary care services). • Providers reported benefits of the collaborative model, including more effective communication, cost-savings, and following of recommendations. |
| Thistlethwaite et al. – The Times Are Changing: Workforce Planning, New Health-Care Models and the Need for Interprofessional Education in Australia ⁶⁷ | Jurisdiction | Australia |
| | Type of care | Primary, community |
| | Brief description of model of care | <p>Examples of models of care for primary care and/or community care:</p> <p>In New South Wales (HealthOne NSW):</p> <ul style="list-style-type: none"> • integrated primary and community health initiative; brings together GPs with community health and other health professionals in multidisciplinary teams • no fixed model, but characterized by motivation to reduce burden of chronic disease and focus on people who need a greater level of coordinated care • methods vary and include a mix of health services <p>Health care homes:</p> <ul style="list-style-type: none"> • patients enrol into this model and receive continuous care from designated health professionals, coordinated by a GP <p>Pilot scheme to respond to needs of patients for regular monitoring of chronic conditions when there was a shortage of GP appointments:</p> <ul style="list-style-type: none"> • pharmacists work with GPs to provide monitoring, medication dose, and earlier interventions, under a care plan developed by the GP |
| | Considerations for specific population groups | These models are primarily aimed at patients with chronic or long-term conditions, as well as complex conditions. |

| Citation | Criteria | Description |
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| | Assessments of effectiveness | <ul style="list-style-type: none"> • HealthOne model had a positive evaluation, but noted challenges in implementation. • Plans are under way to evaluate the health care home model and pilot pharmacist program. |
| De Cotta et al. – Community Co-Produced Mental Health Initiatives in Rural Australia: A Scoping Review ⁶⁸ | Jurisdiction | Australia |
| | Type of care | Mental health |
| | Brief description of model of care | <p>Scoping review identified various types of mental health initiatives. Some examples include:</p> <ul style="list-style-type: none"> • a youth mental health clinic that also provided sexual health screening, general health services, and advice • Rural Adversity Mental Health Program: aimed to raise awareness of drought-related mental health issues in farming communities; hired a project officer, consultant psychiatrist, and mental health workers to integrate health, agricultural, and financial services; and developed various tools including a crisis line |
| | Considerations for specific population groups | Youth and farming communities |
| | Assessments of effectiveness | NR |
| Services for Australian Rural and Remote Allied Health – Models of Allied Health Care ²⁴ | Jurisdiction | Australia |
| | Type of care | Primary |
| | Brief description of model of care | <p>Brief descriptions of currently existing allied health care models in rural Australia:</p> <ul style="list-style-type: none"> • sessional employment of private practitioners by a third party; may be based in the community or visit on an outreach basis (e.g., fly-in-fly-out or drive-in-drive-out) • centralized rural multidisciplinary primary health team: AHPs work from a regional centre on an outreach basis • local community multidisciplinary primary health team: locally based teams within rural communities or in major towns across rural regions • disease-specific health units: multidisciplinary teams with a single health focus; e.g., diabetes, health disease, ear or eye health • delegated models of care: allied health assistants or other members of the local primary health care |

| Citation | Criteria | Description |
|---|---|--|
| | | team take the hands-on role, while supervising AHPs train and support |
| | Considerations for specific population groups | These models may involve Aboriginal peoples, including being provided by Aboriginal community-controlled health organizations or including Aboriginal health workers |
| | Assessments of effectiveness | NR |
| McManamny et al. – Health Initiatives to Reduce the Potentially Preventable Hospitalisation of Older People in Rural and Regional Australia ⁶² | Jurisdiction | Australia |
| | Type of care | Primary, emergency |
| | Brief description of initiative | <p>Systematic literature search; identified initiatives included:</p> <ul style="list-style-type: none"> • Rapid Assessment of the Deteriorating Aged at Risk: provides rapid medical interventions, allowing older adults to stay home and avoid hospital admissions • Community-Focused Complex Care Coordination Teams: case management for people with complex care needs to ensure coordinated care and support • Paramedic Community Support Co-Ordinator: paramedics work with other local health services to provide primary care and training, to meet community needs • Health Independence Program: hospital substitution and diversion services supporting patients in the community, ambulatory settings, and home • Paramedic Connect: paramedics support patients with low acuity or chronic disease at home, including taking part in in-home care • Aged Care Emergency: improves emergency care through dedicated services (telephone support, guidance, direction, collaboration by an experienced acute aged care nurse) • several programs focused on falls and/or fall prevention (e.g., Stay on Your Feet and Stay on Your Feet TAS): can include referral to appropriate services, education, and information |
| | Considerations for specific population groups | Programs focused on older adults (65 years and older), some with complex care needs. |
| | Assessments of effectiveness | NR |
| Chambers et al. – Virtual Clinical Pharmacy Services (VCPS) ⁶³ | Jurisdiction | Australia |

| Citation | Criteria | Description |
|--|---|--|
| | Type of care | Inpatient (pharmacy) |
| | Brief description of initiative | <p>Established in 8 small rural and remote hospitals without routine clinical pharmacy support as part of a research project in 2020. Features include:</p> <ul style="list-style-type: none"> • integrating virtual pharmacists into health care teams to complement and improve existing medication management and assist hospitals in meeting national medication safety standards • using videoconferencing to support delivery of core clinical pharmacy services, including collection of best possible medication history, medication reconciliation at transitions of care, medication review, interprofessional team meetings, patient-friendly medication lists, antimicrobial stewardship, and patient and clinician education • engaging in proactive review of patients' medication therapy and providing targeted monthly medication education in response to medication incidents • conducting quality-focused activities; e.g., implementation planning, staff education • installing videoconferencing tools and electronic medical records at all facilities including electronic medication management |
| | Considerations for specific population groups | NR |
| | Assessments of effectiveness | <ul style="list-style-type: none"> • Highlighted importance of evaluation and continuous service improvement • Assessed multiple measures, including rates of medication reconciliation on admission or discharge and number of clinical interventions and/or recommendations • Created monthly performance reports |
| Local Government Association and Public Health England – Health and Wellbeing in Rural Areas ¹² | Jurisdiction | UK |
| | Type of care | Unclear |
| | Brief description of initiative | <p>Note: This report summarizes multiple initiatives that have been introduced in rural areas of the UK. Select examples are summarized below; please refer to the full report to find all initiatives.</p> <ul style="list-style-type: none"> • In Hertfordshire County: each district sets their priorities, and county-run services will wrap around these local plans • Fish Well health improvement project in Norfolk: brought health services to the workplace, enabling |

| Citation | Criteria | Description |
|----------|---|---|
| | | <p>fishermen to access services they previously had been unable to (due to their long and unpredictable hours at sea)</p> <ul style="list-style-type: none"> An initiative by Cambridgeshire County Council in Fenland district (isolated): expanded health and pharmacy services into workplaces and/or general practices; includes ongoing support for lifestyle changes, and a Lithuanian interpreter and a health trainer from the migrant community |
| | Considerations for specific population groups | <ul style="list-style-type: none"> Cambridgeshire County's initiative notes the culture of poor health and lifestyle indicators among the Indigenous population and migrants, and uses specific strategies for them (e.g., an interpreter) |
| | Assessments of effectiveness | <ul style="list-style-type: none"> Cambridgeshire County's initiative reported increased health checks |

AHP = allied health professional; GP = general practitioner; IMG = international medical graduate; NR = not reported.

Table 4: Frameworks for Planning Rural Health Care

| Criteria | Description |
|---|---|
| Leimbigger et al. — Integrated Determinants of Health Framework¹⁴ | |
| Jurisdiction | First author's affiliations are in Canada (jurisdiction otherwise not reported) |
| Type of care | Unclear |
| Brief description of framework | <p>An integrated determinants of health framework; contributors to rural health equity:</p> <ul style="list-style-type: none"> four types of determinants of health (social, political, commercial, and corporate) personal attributes and attitudes (e.g., ethnicity, age) community attributes and characteristics (e.g., health service infrastructural, technological environment) <p>Proposes 4 strategic recommendations based on this framework:</p> <ul style="list-style-type: none"> develop inclusive and diverse network to identify and co-define barriers faced by rural and remote communities use multidisciplinary and multisectoral collaboration to leverage resources and capabilities for policy-making, research, program implementation, and impact assessment create resilient and sustainable rural-oriented frameworks, moving away from "urban-centric" and "cost-benefit" mentalities innovate by exploring new forms of governance, organizations, platforms, and other innovations |
| Considerations for specific population groups | Notes that rural and remote Indigenous communities in particular have faced challenges, and also refers to personal attributes and attitudes can impact rural health equity; however, does not provide recommendations for specific groups |
| Assessments of effectiveness | NR; mentions impact assessment, but does not provide specific details |
| White — Development of a Rural Health Framework: Implications for Program Service Planning and Delivery¹⁹ | |
| Jurisdiction | First author's affiliations are in Canada (jurisdiction otherwise not reported) |

| Criteria | Description |
|---|---|
| Type of care | Unclear |
| Brief description of framework | Based on literature review to identify effective rural health programs and develop a rural health framework with 6 key elements: <ul style="list-style-type: none"> • identify a rural community • identify social determinants of health • focus on rural health issues (assessing population's health and needs) • integrate multiple levels of community support early on • identify community rural health challenges and assets • address rural health challenges and maximize assets using good practices for rural program planning and delivery, based on social determinants of health |
| Considerations for specific population groups | NR |
| Assessments of effectiveness | NR |
| Canadian Institute for Health Information – Rural Health Systems Model¹⁵ | |
| Jurisdiction | Canada |
| Type of care | Unclear |
| Brief description of framework | Key contextual factors to consider when planning for or assessing rural health systems; for example: <ul style="list-style-type: none"> • geography (travel time, cost, and availability) • population characteristics (age, sex, population fluctuation, language, culture, ethnicity, religion, industry, socioeconomic status) • health system and community context (infrastructure, partnerships and community readiness, service delivery models, innovation and learning capacity, leadership and governance, resource models and allocation) • interactions between 2 or more factors |
| Considerations for specific population groups | Framework notes that needs may differ by: <ul style="list-style-type: none"> • age and sex • population fluctuation (e.g., tourists during the summer) • language, culture, ethnicity, and religion (e.g., a community with a large immigrant population that does not speak the language that local services are delivered in) • industry (e.g., industries that use shift work, which is associated with long-term health effects like cardiovascular disease and diabetes) • socioeconomic status (e.g., access to affordable and suitable housing, unemployment) |
| Assessments of effectiveness | NR |
| Canadian Institute for Health Information – Rural Health Service Decision Guide¹⁶ | |
| Jurisdiction | Canada |
| Type of care | Unclear; examples provided for primary and community care, orthopedic services, birthing services |
| Brief description of framework | Provides steps in decision process for delivering health services to rural populations: <ol style="list-style-type: none"> 1. Clearly state the question to be answered 2. Quantify need for services |

| Criteria | Description |
|---|---|
| | <ol style="list-style-type: none"> Identify potential service options Assess viable service options, based on 6 themes (quality and safety, patient experience, provider experience, internal capacity and context, funding and payment models or costs, and engagement) Summarize results Communicate decision |
| Considerations for specific population groups | NR; for patient experience, notes that cultural safety and humility should be considered, including supports for culturally safe and linguistically appropriate care. |
| Assessments of effectiveness | NR |
| Ontario Hospital Association – Rural Health Hub Framework for Ontario¹⁷ | |
| Jurisdiction | Canada – Ontario |
| Type of care | Unclear |
| Brief description of framework | <p>Outlines the principles for rural health hubs in Ontario:</p> <ul style="list-style-type: none"> person-centred and high-quality care enhanced collaboration and efficiencies accountability <p>Recommendations to support rural health hubs in Ontario:</p> <ul style="list-style-type: none"> rural communities: establish a core group of local champions and leaders including LHINs to develop a community health plan for the local context that includes community members and health providers; develop a communication strategy for consistent messaging; if appropriate, embrace a rural hub approach for Ministry of Health and Long-Term Care: provide funding, incentives to encourage participation; develop implementation approach and accountability process |
| Considerations for specific population groups | NR |
| Assessments of effectiveness | NR |
| Ontario Hospital Association – Rural Health Hub Implementation Guide¹⁸ | |
| Jurisdiction | Canada – Ontario |
| Type of care | Hospitals and their community partners |
| Brief description of framework | <p>Outlines how to develop a rural health hub model for small, rural, and northern communities. Key features include:</p> <ul style="list-style-type: none"> designing a model around the needs of the community (clients and caregivers) following principles of patient-centred care <p>Recommended implementation steps:</p> <ol style="list-style-type: none"> Relationship-building phase: e.g., partnering with primary care, community mental health and addiction services, long-term care, home care, and public health Community needs assessment phase: develop understanding of community needs, available services and gaps, existing relationships between services, and so on Voluntary integration phase Fully-integrated rural hub |

| Criteria | Description |
|--|--|
| Considerations for specific population groups | Refers to patients using community mental health and addiction services, long-term care, and home care |
| Assessments of effectiveness | NR |
| Ministry of Health and Long-Term Care – Rural and Northern Health Care Framework/Plan: Stage 1 Report¹ | |
| Jurisdiction | Canada – Ontario |
| Type of care | Primary, emergency, inpatient hospital |
| Brief description of framework | <p>Framework aimed to provide appropriate access and equitable outcomes for rural, remote, and northern communities. Guiding principles include:</p> <ul style="list-style-type: none"> • community engagement • flexible local planning and delivery (adaptable to local needs) • culturally and linguistically responsive • value (i.e., viewing health facilities and professionals in rural communities as assets) • integration (across traditional health care and intersectional silos) • innovation (models of care, health human resource roles, integration) • connected and coordinated (to and across LHINs, provincial initiatives, organizations) • evidence-based • sustainable <p>Outlines recommended strategies and guidelines, including:</p> <ul style="list-style-type: none"> • establishing a process to identify strategies and guidelines to improve access for Indigenous communities, considering their specific needs • establishing innovative human health resource models and integrating them into existing strategies and programs (e.g., team-based care, incentives to work in these communities) • strengthening relationships, improving clarity of accountabilities, increasing intersectoral integration of emergency services and public health services • supporting a “local hub” of health planning, funding, and delivery across health sectors at local and/or multi-community level • establishing clear roles, responsibilities, and supporting infrastructure that foster collaboration, defined referral pathways, and coordinated access to services • engaging local communities in decision-making for planning, funding, and delivery • enhancing provincial information management, clinical and educational technology availability, and incentives to use them |
| Considerations for specific population groups | Highlights strategies for Indigenous communities |
| Assessments of effectiveness | <ul style="list-style-type: none"> • Under the evidence-based guiding principle: initiatives must be supported by ongoing research and evaluation of standards and outcomes • Unclear if this will be a metric, but states that 90% of residents in a community or local hub should be able to receive primary and emergency care within 30 minutes of travel, basic inpatient care in 1 hour, and specialty or tertiary services within 4 hours |
| Wilson et al. – Progress Made on Access to Rural Health Care in Canada²⁰ | |
| Jurisdiction | Canada |
| Type of care | Unclear; may apply to health care provision generally |

| Criteria | Description |
|--|---|
| Brief description of framework | Summarizes the Rural Road Map for Action released in 2017 with recommendations for rural physician work force planning. The 4 main directions and related recommendations included: <ul style="list-style-type: none"> • social accountability: developing criteria to reflect affinity and suitability for rural practice, developing programs to recruit rural students, initiatives for medical students' education • policy interventions related to education (for medical students and physicians) • best practice models: creating policies for timely transfer and appropriate consultations; developing resources, infrastructure, and networks of care to improve access, and strategies to guide distance technology; engaging with communities to implement recruitment and retention strategies • rural research agenda: developing a Canadian rural health services research network, developing a standardized measurement system with clear indicators as well as metrics regarding recruitment and retention, promoting use of rural research-informed medicine |
| Considerations for specific population groups | Recommends developing strategies to recruit Indigenous students into medical schools |
| Assessments of effectiveness | Recommends developing a standardized measurement system with clear indicators to measure effects on service delivery, as well as metrics to assess the success of recruitment and retention programs |
| Bosco and Oandasan – Review of Family Medicine Within Rural and Remote Canada: Education, Practice, and Policy² | |
| Jurisdiction | Canada; also compares other countries (e.g., Australia, New Zealand, UK, and US) |
| Type of care | Family medicine |
| Brief description of framework | Issues to consider: <ul style="list-style-type: none"> • current strategies do not focus on long-term recruitment, and are mostly short-term solutions to provide immediate access to rural physicians • lack of national strategy that builds on evidence from successes across the country • absence of a common definition of a rural and/or centralized database presents challenges for determining appropriate strategies Recommendations include: <ul style="list-style-type: none"> • interprofessional models supporting other health care professionals to provide care, including nurse practitioners and physician assistants • collaborative strategies with a coordinated approach (to reduce duplication) based on evidence-based approaches to strengthen the evidence base for national planning, improve recruitment and retention, and ensure supply of health care providers • align education and practice policies as they are related • use data for evaluation to help build a flexible, strategic, and responsive resource plan |
| Considerations for specific population groups | NR |
| Assessments of effectiveness | Recommends using comparative data for evaluation |
| Komelsen and Carthew – Community Level Strategies for Recruiting and Retaining Health Care Providers to Rural and Remote Areas: A Scoping Review²¹ | |
| Jurisdiction | Canada |
| Type of care | Unclear; may apply to all types of care |

| Criteria | Description |
|---|---|
| Brief description of framework | <p>Scoping review of community-level strategies to recruit and retain health care providers to rural and remote communities; recommendations include:</p> <ul style="list-style-type: none"> • actively engaging rural communities, including local industry, in recruitment and retention of health care providers • observing the needs of rural Indigenous communities, as articulated by the communities • having a transparent regional planning process with clear rationale for resource allocation decisions • evaluating all collaborative (community–health system) recruitment and retention efforts, including: effectiveness, costs involved, sustainability of candidates, and lessons learned • for communities that achieve their recruitment and retention goals, documenting their successes as guidance for other communities |
| Considerations for specific population groups | Highlights rural Indigenous communities, specifying that their needs should be incorporated into planning |
| Assessments of effectiveness | Broadly recommends evaluating effectiveness, costs, and sustainability of candidates, but does not provide specifics (e.g., how to evaluate effectiveness) |
| Making it Work Framework – Framework for Remote Rural Workforce Stability²² | |
| Jurisdiction | Funded by the European Union Northern Periphery and Arctic (NPA) Programme; presents case studies from Canada, Sweden, Norway, and Scotland |
| Type of care | Unclear |
| Brief description of framework | <p>Framework aimed at the recruitment and retention of health care professionals in rural and remote locations. Conditions for success include:</p> <ul style="list-style-type: none"> • recognizing unique rural and remote issues • including rural and remote engagement and perspectives • adequate investment • annual cycle of activities • monitoring and evaluation <p>Elements of the framework include:</p> <ul style="list-style-type: none"> • plan: assess population service needs, align service model with population needs, and develop profile of target recruits • recruit: emphasize information sharing, community engagement, supporting families • retain: support team cohesion, relevant professional development, training future professionals |
| Considerations for specific population groups | No groups specified, though the framework states population needs should be considered |
| Assessments of effectiveness | One key aspect of this framework is ongoing monitoring: key metrics of all elements of the framework must be developed and monitored |
| Roberts – A Rural Health Governance Model That Is Fit for Purpose – It's Not Them and Us: It's 'We'²³ | |
| Jurisdiction | Australia |
| Type of care | Unclear |

| Criteria | Description |
|---|--|
| Brief description of framework | <p>Some key elements of effective, legitimate rural health service planning and delivery:</p> <ul style="list-style-type: none"> • incorporating knowledge and skills of rural experts, as well as principles of citizen participation and community development, to combine technical expertise with local knowledge and place-specific expertise • providing power and control through funding, planning, and decision-making • valuing the perspectives of rural communities when evaluating • effective articulation of available city-based and rural-based service capacity • sufficient time and effort for ongoing communication and collaboration <p>From programs that have worked well, key features include:</p> <ul style="list-style-type: none"> • locally controlled funding • central agency engagement • mutual accountability • rigorous evaluation • inclusion of place-based experts, lived-experience experts, local leaders, clinicians, and researchers working together to guide, monitor, and manage the program |
| Considerations for specific population groups | NR |
| Assessments of effectiveness | Highlights evaluating programs as key to effective service planning, including multiple perspectives in the process |
| Services for Australian Rural and Remote Allied Health – Models of Allied Health Care in Rural and Remote Australia²⁴ | |
| Jurisdiction | Australia |
| Type of care | Primary |
| Brief description of framework | <p>Position paper summarizing principles for effective models of allied health care in rural and remote areas. They state that models of care should:</p> <ul style="list-style-type: none"> • develop out of community engagement and consultation, and must prioritize the community's needs • be based on best available evidence of efficacy and continuously monitor and improve the model based on regular evidence reviews and evaluation • place illness prevention and health promotion at the core • use integrated multidisciplinary care and intersectoral collaboration • develop effective management and planning capacities • use timely and strategic reporting |
| Considerations for specific population groups | NR |
| Assessments of effectiveness | States that the model of care should be evaluated to improve the model but does not provide specific details; also states that effective models of care should measure the effects of what they do, and report them to their communities and stakeholders |
| National Centre for Rural Health and Care – Rural Proofing for Health Toolkit²⁵ | |
| Jurisdiction | UK |
| Type of care | Hospital, primary and community, mental health, public health, and preventive |

| Criteria | Description |
|---|---|
| Brief description of framework | <p>A toolkit to help with “rural proofing”: a systematic approach to identify notable rural differentials likely to impact service effectiveness and outcomes, thus enabling creation of appropriate solutions, mitigations, and opportunities. The strategy is a cycle:</p> <ol style="list-style-type: none"> 1. Analyze rural needs 2. Consult rural bodies and patients 3. Define rural priorities or challenges 4. Consider options or mitigations 5. Adapt proposals or measures 6. Monitor and review |
| Considerations for specific population groups | NR |
| Assessments of effectiveness | States that statistical analyses and service user feedback should be disaggregated to reveal local and rural evidence, and inform service planning |
| National Centre for Rural Health and Care – APPG Rural Health and Care: Parliamentary Inquiry²⁶ | |
| Jurisdiction | UK |
| Type of care | Primary, secondary |
| Brief description of framework | <p>Outlines recommendations categorized under 4 themes:</p> <ol style="list-style-type: none"> 1. Build an understanding of distinctive health and care needs of rural areas, including at a very local level (for the specific community) 2. Deliver services suited to the specific needs of rural areas, including using technology 3. Develop a structural and regulatory framework that fosters rural adaptation and innovation, including ensuring training matches with patients’ needs 4. Develop integrated services that provide holistic, person-centred care; includes empowering the community and funding research |
| Considerations for specific population groups | NR |
| Assessments of effectiveness | NR |
| Local Government Association and Public Health England – Health and Wellbeing in Rural Areas¹² | |
| Jurisdiction | UK |
| Type of care | Unclear |
| Brief description of framework | <p>Presents questions to consider when developing strategies related to rural health:</p> <ul style="list-style-type: none"> • Are you making best use of small area-based data? Have public health and economic intelligence and data-gathering units identified innovative ways of identifying groups in rural areas who most need health and care support? • Are there alternative means of providing and accessing services in rural areas? • Can you make better use of existing rural networks or meeting points to deliver services? • Can you reduce need to travel through outreach, mobile services, localized delivery, and telehealth strategies? |
| Considerations for specific population groups | NR |

| Criteria | Description |
|--|--|
| Assessments of effectiveness | NR |
| Schulte et al. – Narrowing the Rural-Urban Health Divide: Bringing Virtual Health to Rural Communities²⁷ | |
| Jurisdiction | US |
| Type of care | Rural health care organizations, including critical access hospitals, federally qualified health centres, rural health clinics, and tertiary care facilities |
| Brief description of framework | <p>Six key steps to consider when building a virtual health program:</p> <ul style="list-style-type: none"> • conduct needs assessment of care organization and community to identify most appropriate solutions, current technological capabilities, and future needs • develop a coordinated strategy, centralized governance structure, strong partnerships • invest in data and technology infrastructure • engage with and train workforce on how to use the new technology • create new workflows, care models, and risk mitigation protocols for a seamless and coordinated process across different providers, services, and settings • engage with and educate patients on the benefits of virtual health and how to use it |
| Considerations for specific population groups | NR |
| Assessments of effectiveness | NR |
| Centers for Medicare and Medicaid Services – Rural Health Strategy²⁸ | |
| Jurisdiction | US |
| Type of care | Unclear |
| Brief description of framework | <p>Main objectives and key supporting activities:</p> <ul style="list-style-type: none"> • apply a rural lens to programs and policies, including identifying and accelerating diffusion of promising evidence-based practices • improve access to care through provider engagement and support • advance and encourage telehealth and telemedicine • empower patients to make decisions about their health care • leverage partnerships to achieve goals |
| Considerations for specific population groups | NR |
| Assessments of effectiveness | NR |
| Rural Health Information Hub – PRECEDE-PROCEED²⁹ | |
| Jurisdiction | US |
| Type of care | Unclear |
| Brief description of framework | <p>Steps to design health promotion and other health programs:</p> <ul style="list-style-type: none"> • PRECEDE: assess various community factors (social, epidemiological, and ecological), identify administrative and policy factors influencing implementation, and match appropriate interventions before implementing • PROCEED: implement program, then evaluate process, impact, and outcomes |
| Considerations for specific population groups | NR |

| Criteria | Description |
|--|---|
| Assessments of effectiveness | PROCEED step includes assessing the program to determine if the goal is reaching the targeted population and achieving desired goals, evaluating the changed behaviours, and determining if there is a change in incidence and/or prevalence |
| University of Wisconsin Population Health Institute – What Works? Strategies to Improve Rural Health ³⁶ | |
| Jurisdiction | US |
| Type of care | Primary and mental health; may also apply to other types of care |
| Brief description of framework | <p>Summarizes strategies to find programs and policies that will work for a local community:</p> <ul style="list-style-type: none"> • think about factors influencing health • assess community's needs and resources • focus on the most important problems so resources are directed to key issues • choose the right policies and programs for your community • engage with a variety of stakeholders, and communicate with community and partners <p>Examples of strategies to improve access to quality health care include:</p> <ul style="list-style-type: none"> • community health workers • telehealth • medical homes (a coordinated team of medical providers across the health care system that provides continuous, comprehensive, whole person primary care) • behavioural health primary care integration (revising health care processes and provider roles to integrate mental health and substance use treatment into primary care) |
| Considerations for specific population groups | NR |
| Assessments of effectiveness | NR |

APPG = All Party Parliamentary Group; EHR = electronic health record; LHIN = Local Health Integration Network; NR = not reported.

Table 5: Recommendations to Support Rural Health Care

| Criteria | Description |
|---|--|
| BC Ministry of Health – Rural Health Services in BC: A Policy Framework to Provide a System of Quality Care ³⁰ | |
| Jurisdiction | Canada – British Columbia |
| Type of care | Primary and community, urgent and emergency |
| Brief description of framework | <p>At practice level:</p> <ul style="list-style-type: none"> • implement an integrated, multidisciplinary primary and community care practice that can meet the needs of the community, with linkages to higher levels of services <ul style="list-style-type: none"> ◦ prefer physicians to be fully incorporated in teams, but can use visiting and virtual telehealth services if needed • enable partnerships between local health authorities, care providers, and community • where appropriate, build teams in partnership with First Nations Health Authority and incorporate traditional models of health services <p>Organizational level:</p> <ul style="list-style-type: none"> • help implement team-based primary and community care |

| Criteria | Description |
|--|---|
| | <ul style="list-style-type: none"> • explore innovative and cost-effective options to support aging in place • develop network of specialized teams to support primary care practices • expand roles for paramedics to enable effective use of advanced care paramedics • establish pathways to access hospitals linked to primary practices <p>Provincial level:</p> <ul style="list-style-type: none"> • health human resources planning and management (e.g., funding mechanisms) • accountability and implementation |
| Considerations for specific population groups | Primary care should meet the needs of specialty populations (including maternity care, chronic medical conditions, frailty home support, cancer care, mental illness, substance use, and palliative care); Indigenous models of health should also be incorporated where appropriate |
| Assessments of effectiveness | Ministry of Health (Health Service Policy and Quality Assurance Division) will establish public reporting, monitoring and impact/outcome assessment mechanisms |
| Rural Health Services Review Committee – Rural Health Services Review Final Report³¹ | |
| Jurisdiction | Canada – Alberta |
| Type of care | Primary, mental health and addiction services, continuing care, emergency |
| Brief description of framework | <p>Based on meetings with rural communities around Alberta; some general recommendations:</p> <ul style="list-style-type: none"> • increase funding and resources (e.g., to develop and incentivize team-based care, appropriate funding mechanisms for nurses and other allied health care providers) • provide training opportunities for health care providers • develop team-based care (e.g., team-based primary care, cooperative partnerships between different providers, and coordinating between community and primary care) • remove barriers hindering implementation of a province-wide electronic health record • support participation in available improvement and change management programs • improve accountability, including establishing roles and communication pathways • conduct a full inventory of existing facilities and, with communities, evaluate potential for re-purposing or optimizing utilization <p>For specific types of care:</p> <ul style="list-style-type: none"> • expand availability of mental health services (e.g., resident or visiting caregivers, telehealth) • establish future living facilities to allow residents to age in place, and provide additional options for community-based end-of-life care • develop and implement practices to mandate ambulance crews to discharge transported patients within 1 hour of arrival at ER before returning to home community directly |

| Criteria | Description |
|--|--|
| | <ul style="list-style-type: none"> • expand Alberta Health Services Volunteer Emergency Medical Response program |
| Considerations for specific population groups | <ul style="list-style-type: none"> • States that First Nations and Métis settlements must be actively engaged and included in the development of solutions and collaborative delivery models unique to each area • Provides recommendations specific to older patients for continuing care |
| Assessments of effectiveness | <ul style="list-style-type: none"> • Recommends development of EMS access, response, and performance standards; EMS response times should be measured, monitored, and reported; performance standards should be developed to form the basis of future planning decisions • Recommends monitoring and measuring increased utilization of telehealth |
| Smith et al. – Advancing Health Promotion in Rural and Remote Australia: Strategies for Change³² | |
| Jurisdiction | Australia |
| Type of care | Health promotion |
| Brief description of framework | <p>Suggestions to advance rural and remote health promotion action:</p> <ul style="list-style-type: none"> • strategies should be intersectional in addressing disadvantages, including poverty, racism, intergenerational trauma, and remoteness • adopt processes to empower rural and remote communities to self-determine their health and well-being needs, and their desired health and social outcomes • include local stakeholders when designing place-based programs and services, acknowledging and responding to each community's unique needs • Aboriginal and Torres Strait Islander people should be afforded opportunities and support to govern their health and well-being in their communities; approaches should also align with their concepts of health and well-being where relevant • programs and services should be provided as close to home as possible • invest in capacity building of the local health workforce (including Aboriginal and Torres Strait Islander people), and in innovative and flexible models, so programs and services are delivered by people trusted by their communities in a respectful, meaningful, and culturally responsive way • use disaggregated data to address and prioritize health and social inequities, including embracing concepts of Indigenous data sovereignty • invest in ethical and locally driven implementation, monitoring, evaluation, and research • scale evidence-based approaches that meet needs of communities |
| Considerations for specific population groups | Several recommendations specific to the Indigenous (Aboriginal and Torres Strait Islander) population; also notes the importance of culturally responsive care |
| Assessments of effectiveness | Recommendations include locally driven monitoring and evaluation to grow the evidence base of innovative and effective health promotion programs |
| Cosgrave – Implementing Strategies for Strengthening Australia's Rural Allied Health Workforce³³ | |
| Jurisdiction | Australia |
| Type of care | Unclear |

| Criteria | Description |
|---|--|
| Brief description of framework | <p>Summarizes the Whole of Person Retention Improvement Framework and recommendations to support allied health professionals in rural areas:</p> <ul style="list-style-type: none"> • workplace and organizational: working in a supportive, inclusive workplace (e.g., offer paid transitional accommodation and reimburse relocation costs, and streamline recruiting processes) • role and career: having opportunities to build skills and access career pathways (e.g., establish a 2-year early career support program to assist entry-level staff to manage their work, develop their skills, and support their professional development and social connections at work; develop a consistent and equitable professional development policy) • community and place: feeling settled in, being socially connected, having a sense of belonging (e.g., work with community and develop policies and systems to welcome and support social connections of new staff) |
| Considerations for specific population groups | NR |
| Assessments of effectiveness | NR |
| NSW Government – Rural Health Plan: Toward 2021 ³⁴ | |
| Jurisdiction | Australia |
| Type of care | Primary, community, emergency |
| Brief description of framework | <p>Describes the Rural Health Plan released in 2014, which included goals and initiatives across 6 main areas (3 directions and 3 strategies), and examples of key achievements, including:</p> <ul style="list-style-type: none"> • healthy rural communities: implemented a framework for victims of sexual assault, child abuse and/or neglect; promoted access to maternity services; developed community-based approaches to mental health to increase provision of services close to home • access to high-quality care for rural populations: increased use of telehealth services • integrating rural health services: developed integrated models of care to improve coordination of care and provide care closer to home; developed health literacy activities for culturally and linguistically diverse populations and people with disabilities • enhancing rural health workforce: increased the number of health care providers and employed Aboriginal people • strengthening rural health infrastructure, research, and innovation: invested in research in rural areas, hospital upgrades, and redevelopment; provided support for end-of-life and palliative care outside of hospitals • improving rural e-health: established framework and infrastructure for a secure and clinical-grade network for all rural districts to use virtual care services |
| Considerations for specific population groups | <ul style="list-style-type: none"> • Increased the Aboriginal health workforce, implemented mandatory cultural respect training, and enhanced accountability mechanisms • Noted importance of the health system being accessible and responsive to culturally and linguistically diverse people, and people with disabilities |

| Criteria | Description |
|---|--|
| Assessments of effectiveness | Reports key achievements, including improved health outcomes (mortality rates, low birth rate, infant mortality rates, suicide rates), increased rural health workforce including Aboriginal workforce representation, and data from patient surveys |
| MacVicar and Nicoll – NHS Education for Scotland: Supporting Remote and Rural Health Care³⁵ | |
| Jurisdiction | UK – Scotland |
| Type of care | Unclear |
| Brief description of framework | <p>Recommendations to assist with recruitment and retention in rural and remote areas include:</p> <ul style="list-style-type: none"> • enhanced scopes of practice to increase potential for job satisfaction • introducing different types of health workers with appropriate training and regulation for rural practice to increase the number of health workers (e.g., rural nurse practitioners) • using a mix of fiscally sustainable financial incentives (e.g., hardship allowances, housing grants, free transportation) to outweigh perceived opportunity costs of rural areas • improving living conditions for health workers and their families, including investing in infrastructure and services (e.g., sanitation, electricity, telecommunications, schools) • providing a good and safe working environment (e.g., appropriate equipment and supplies, supportive supervision and mentoring) • identifying and implementing appropriate outreach activities to facilitate cooperation between health workers from better-served areas and those in underserved areas • where feasible, using telehealth to provide additional support |
| Considerations for specific population groups | NR |
| Assessments of effectiveness | NR |
| Pitsor – Improving Rural Health: State Policy Options for Increasing Access to Care³⁷ | |
| Jurisdiction | US |
| Type of care | Mentions primary, may also apply to other types of care |
| Brief description of framework | <p>Suggests several policy options; their health care delivery policy options include:</p> <ul style="list-style-type: none"> • to address primary service gaps, assess and consider scope of practice (defining roles and responsibilities) and licensure and payment parity policies for non-physician workforce (e.g., nurse practitioners, physician assistants) • establishing and funding recruitment and retention of rural health care workforce • policies to expand access to telehealth (e.g., licensure standards, standards of care) • evaluating effective policies that improve access to and quality of home- and community-based services for older residents (e.g., increasing benefits, paid leave for family carers) |
| Considerations for specific population groups | Older residents |
| Assessments of effectiveness | NR |

| Criteria | Description |
|--|---|
| Reinventing Rural Health Care: A Case Study of Seven Upper Midwest States³⁸ | |
| Jurisdiction | US |
| Type of care | Mentions primary, may also apply to other types of care |
| Brief description of framework | <p>Identified 4 specific areas to develop recommendations:</p> <ul style="list-style-type: none"> • adjusting health care services to fit the community's needs • creating rural funding mechanisms that reflect the challenges of rural communities, including small population size and high costs • building and supporting primary care physician workforce: alternative providers (e.g., nurse practitioners, physician assistants) can fill vital primary care roles; employing roles like case managers, community health workers, and in-home providers can also help meet a community's complex physical, behavioural, and social needs • expanding telemedicine: to improve access to specialists, and provide peer support to rural health care providers, improving recruitment and retention |
| Considerations for specific population groups | Many rural communities have aging populations and lack of nursing homes is a rising concern. Residents in rural areas may not be able to cover costs for a nursing home, and many would prefer to stay at home. In-home models of care supported by a mobile support staff may help them to age safely at home. |
| Assessments of effectiveness | NR |
| Phase Three: Washington Rural Health Access Preservation Program: Final Report³⁹ | |
| Jurisdiction | US |
| Type of care | Hospitals, emergency |
| Brief description of framework | <p>Some key recommendations include the following:</p> <ul style="list-style-type: none"> • policy-makers should incentivize interoperability, prioritizing data standardization guidelines and fast-tracking interoperability regulation • expanding funding and grant programs for continuing education • workforce development must coincide with new model implementation expectations • new career tracks need sufficient reimbursement • reimbursement should be comprehensive and cover full spectrum of activities; they should also incentivize care management and preventive activities long-term • new models need robust technical support and activities to collaborate and learn • a stronger, more coordinated approach across transformation activities to focus resources toward a uniform goal • need free or low-cost options for EHR training, resources, and support from vendors |
| Considerations for specific population groups | Notes that reimbursement should be comprehensive, including covering the care required for patients with complex needs |
| Assessments of effectiveness | NR |

| Criteria | Description |
|--|--|
| NORC Walsh Center for Rural Health Analysis – Exploring Strategies to Improve Health and Equity in Rural Communities⁴⁰ | |
| Jurisdiction | US |
| Type of care | Primary, specialty |
| Brief description of framework | Highlights opportunities to improve health in rural America, including: <ul style="list-style-type: none"> • elevating current programs that impact health and equity in rural communities • integrating rural components into existing programs, policies, and practices • developing a rural cross-sector advisory panel to plan and structure implementation efforts • building long-term, meaningful relationships with rural communities and cross-sector collaborations • adapting funding strategies to address rural barriers to participating in programs • strengthening individual, organizational, and systems-level implementation capacity • considering rural communities as pilot sites to test interventions on a smaller scale • building the rural evidence base by documenting innovative efforts • developing rural-specific communications that reflect rural cultures and norms. • continuing rural learning to identify and build opportunities to improve health and equity |
| Considerations for specific population groups | NR |
| Assessments of effectiveness | Recommends documenting efforts to build the rural evidence base |
| Greenwood-Ericksen et al. – Transforming the Rural Health Care Paradigm⁴¹ | |
| Jurisdiction | Likely US, based on authors' affiliations |
| Type of care | Hospitals, primary |
| Brief description of framework | Editorial recommending policies to support rural hospitals and clinicians: <ul style="list-style-type: none"> • collaborating with academic medical centres (e.g., telemedicine, education) • investing in regionalized care to develop planned transfer networks • expanding telemedicine • innovating in workforce development using data-driven approaches to expand and support rural primary care providers • adopting a new financial and delivery model to ensure hospitals' financial stability |
| Considerations for specific population groups | NR |
| Assessments of effectiveness | Recommendations include using data-driven approaches, which suggest the use of assessments of effectiveness |

EMS = emergency medical services; ER = emergency room; NR = not reported.

Table 6: Proposals or General Descriptions of Models of Care for Rural Health Care

| Criteria | Description |
|---|--|
| National Rural Health Alliance 2022–23 Pre-Budget Submission – Rural Area Community Controlled Health Organisation⁴² | |
| Jurisdiction | Australia |
| Type of care | Primary |
| Brief description of model of care | <p>Proposes the Rural Area Community Controlled Health Organisation, which will:</p> <ul style="list-style-type: none"> • employ a range of different health care providers depending on communities’ needs • have close links with other services (e.g., community pharmacies, infant health centres, paramedics, multipurpose services and local hospitals, and visiting specialists)⁷² • be supported by administrative staff (including practice managers) • provide primary care and act as training hubs <p>As the needs of each community are unique, this model will require:</p> <ul style="list-style-type: none"> • organizational and governance flexibility • strong local governance, management, and leadership • service planning based on local needs |
| Considerations for specific population groups | <p>States support for:</p> <ul style="list-style-type: none"> • people living in residential aged care facilities • recipients of the National Disability Insurance Scheme • Department of Veteran Affairs health care |
| Assessments of effectiveness | NR |
| Elrod and Fortenberry – Development of a Rural Health Framework: Implications for Program Service Planning and Delivery⁴³ | |
| Jurisdiction | US |
| Type of care | Hospital |
| Brief description of model of care | <p>Summarizes hub-and-spoke model features:</p> <ul style="list-style-type: none"> • has a main campus or hub, which receives the most investment and supplies the most intensive services • hub is complemented by satellite campuses or “spokes” that offer more limited services at other (e.g., more rural) sites |
| Considerations for specific population groups | NR |
| Assessments of effectiveness | Describes the adoption of this model in the US, which led to expansion to 5 spokes |
| Gale – Models of Mental Health Integration for Rural Health Clinics⁴⁴ | |
| Jurisdiction | US |
| Type of care | Rural health clinics |
| Brief description of model of care | <p>Describes different types of integrated models for providing mental health care:</p> <ul style="list-style-type: none"> • integrated care should be patient-centred, delivered in patient-preferred settings, evidence-based, and expand access to and optimize care • notes no single model works for all providers and patients; models may focus on general population or specific populations, provide different types of services |

| Criteria | Description |
|--|---|
| | <ul style="list-style-type: none"> • level of collaboration may vary; more collaboration requires more resources and will have more barriers, but is required for more complex or significant problems • functional elements must be clearly defined |
| Considerations for specific population groups | Notes that model may focus on specific patient groups (e.g., people with chronic disease, high users of primary care services, people with depression) |
| Assessments of effectiveness | NR |
| Rural Health Information Hub – Community Health Workers Toolkit⁴⁵ | |
| Jurisdiction | US |
| Type of care | Unclear |
| Brief description of model of care | <ul style="list-style-type: none"> • Lists promising models where CHWs help patients to access care, such as through coordinating care or engaging in outreach activities • Presents strategies for implementing CHW programs in rural communities related to planning, designing, recruiting, supervising, and training CHWs |
| Considerations for specific population groups | NR |
| Assessments of effectiveness | Highlights evaluation to measure effectiveness of program and determine how it can be improved, including details related to planning, designing, collecting information, and data use and management |
| Rural Health Information Hub – Rural Clinical Models for Health Promotion and Disease Prevention⁴⁶ | |
| Jurisdiction | US |
| Type of care | Unclear |
| Brief description of model of care | <p>Models of care for health promotion and disease prevention in rural areas, including:</p> <ul style="list-style-type: none"> • Community Health Worker model: CHWs assist people with obtaining information, provide care coordination services and support • patient-centred medical home: framework to strengthen the clinician–patient relationship through improved access, coordinated care, and increased support |
| Considerations for specific population groups | NR |
| Assessments of effectiveness | NR |
| RUPRI Health Panel – After Hospital Closure: Pursuing High Performance Rural Health Systems Without Inpatient Care⁴⁷ | |
| Jurisdiction | US |
| Type of care | Focus is on alternatives to inpatient care, including ED and primary care practices |
| Brief description of model of care | <p>Summarizes alternatives to inpatient care, including policy proposals:</p> <ul style="list-style-type: none"> • 24/7 ED with a skilled nursing facility and expanded use of telehealth • outpatient clinic with 24/7 ambulance • outpatient clinic with capacity for emergency care and minimal inpatient capacity • rural emergency hospital providing emergency care, no inpatient care • primary health centres supported by a robust EMS plan and a formal relationship with a larger partner organization to assist with delivering care <p>Currently available options:</p> |

| Criteria | Description |
|---|---|
| | <ul style="list-style-type: none"> • clinics or centres that provide primary care-focused or community-based outpatient services • clinics that provide urgent or emergency care, not typical primary or chronic care |
| Considerations for specific population groups | NR |
| Assessments of effectiveness | NR |

CHW = community health worker; ED = emergency department; EMS = emergency medical services; GP = general practitioner; NR = not reported.

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Appendix 1: References of Potential Interest

Note that this appendix has not been copy-edited.

Previous CADTH Work

Evidence related to rural and remote health. (CADTH Evidence Bundle). Ottawa (ON): CADTH, 2022. <https://www.cadth.ca/ruralremote> Accessed 2022 Sep 9.

Planning Initiatives From the US

Rural Health Models and Innovations. Rural Health Information Hub. <https://www.ruralhealthinfo.org/project-examples> Accessed 2022 Sep 8.

Rural Action Plan. Washington (DC): US Department of Health and Human Services. 2020. <https://www.hhs.gov/sites/default/files/hhs-rural-action-plan.pdf> Accessed 2022 Sep 14.

Issue Brief 4: How Rural Hospitals Improve Value and Affordability. The Value Initiative. Chicago (IL): American Hospital Association. 2019. <https://www.aha.org/system/files/2019-02/value-initiative-issue-brief-4-rural-hospitals.pdf> Accessed 2022 Sep 15.

Note: Briefly describes several initiatives from the US around population health, new care models, telehealth, and the health care workforce.

Lloyd, J. Opportunities to Advance Complex Care in Rural and Frontier Areas. Hamilton (NJ): Center for Health Care Strategies, Inc. 2019. https://www.chcs.org/media/TCC-RURAL-BRIEF_050719.pdf Accessed 2022 Sep 15.

Note: Briefly describes several initiatives from the US. Key themes are similar to the themes found in the report, including: involving rural communities in planning, collaboration, assessing existing assets, involving community health workers, using technology, and developing new financing models.

Wishner, J., Solleveld, P., Rudowitz, R., and Antonisse, L. Issue brief: A Look at Rural Hospital Closures and Implications for Access to Care: Three Case Studies. San Francisco (CA): The Kaiser Commission on Medicaid and the Uninsured. 2016. <https://files.kff.org/attachment/issue-brief-a-look-at-rural-hospital-closures-and-implications-for-access-to-care> Accessed 2022 Sep 14.

Refer to: Rural Health Transformation Models (p.11)

Educational Initiatives and Recommendations

Canada

The Conversation. How rural Canada can attract and retain international health-care providers: Address discrimination, provide support. 2022. <https://theconversation.com/how-rural-canada-can-attract-and-retain-international-health-care-providers-address-discrimination-provide-support-181251> Accessed 2022 Sep 12.

The Rural Health Professions Action Plan Strategic Plan. Edmonton (AB): Alberta's Rural Health Professions Action Plan (RHPAP). 2020. <https://rhpap.ca/wp-content/uploads/2020/07/RhPAP-Strategic-Plan-2020-2024-Final.pdf> Accessed 2022 Sep 8.

Maurice S, Mytting K, Gentles JQ, et al. The Healthcare Travelling Roadshow: a qualitative study of a rural community engagement initiative in Canada. *Rural Remote Health*. 2019;19(3):5238. [PubMed](#)

Advancing Rural Family Medicine: The Canadian Collaborative T, Larsen Soles T, Wilson CR, Oandasan IF. Family medicine education in rural communities as a health service intervention supporting recruitment and retention of physicians. *Canadian Journal of Rural Medicine*. 2017;22(1):28-32. [PubMed](#)

Mythbuster: IMGs Are the Solution to the Doctor Shortage in Underserved Areas. Ottawa (ON): Canadian Foundation for Healthcare Improvement. 2013. https://www.hhr-rhs.ca/en/?option=com_content&view=article&id=401:chhrn-chfi-mythbuster-imgs-a Accessed 2022 Sep 12.

Rural Coordination Centre of BC. Knowledge-based Initiatives. <https://rccbc.ca/rccbc-initiatives/knowledge-based-initiatives/> Accessed 2022 Sep 8.

Australia or UK

Australian Government – Department of Health and Aged Care. Rural health workforce initiatives and programs. <https://www.health.gov.au/health-topics/rural-health-workforce/programs> Accessed 2022 Sep 8.

Note: Multiple initiatives are listed that aim to support medical professional students in rural areas (e.g., providing scholarships or other funding, training programs, and programs to provide a Commonwealth Supported Place in a medical course in exchange for working in rural areas after graduation), as well as provide continuing education and training for health care providers.

Morell AL, Kiem S, Millstead MA, Pollice A. Attraction, recruitment and distribution of health professionals in rural and remote Australia: early results of the Rural Health Professionals Program. *Hum Resour Health*. 2014;12:15. [PubMed](#)

Remote & Rural Post-CCT Fellowships. Leeds (UK): Health Education England. 2020. <https://www.hee.nhs.uk/sites/default/files/documents/Remote%20%26%20Rural%20Post-CCT%20Fellowships.pdf> Accessed 2022 Sep 12.

MacVicar R, Clarke G, Hogg DR. Scotland's GP Rural Fellowship: an initiative that has impacted on rural recruitment and retention. *Rural Remote Health*. 2016;16(1):3550. [PubMed](#)

Other Initiatives

Australian Government – Department of Health and Aged Care. Approved Medical Deputising Services (AMDS) Program. <https://www.health.gov.au/initiatives-and-programs/amds> Accessed 2022 Sep 8.

Note: In this program, non-vocationally recognized doctors can gain general practice experience by providing after-hours care. This program is listed as a rural health workforce initiative. However, it is not clear if this program is being used to provide after-hours care in rural areas, and thus it was not included in the main results.

Key Enablers or Factors Influencing Successful Initiatives and Models

Obamiro KO, Tesfaye WH, Barnett T. Strategies to increase the pharmacist workforce in rural and remote Australia: a scoping review. *Rural Remote Health*. 2020;20(4):5741. [PubMed](#)

Bradford NK, Caffery LJ, Smith AC. Telehealth services in rural and remote Australia: a systematic review of models of care and factors influencing success and sustainability. *Rural Remote Health*. 2016;16(4):3808. [PubMed](#)

Carroll V, Reeve CA, Humphreys JS, Wakerman J, Carter M. Re-orienting a remote acute care model towards a primary health care approach: key enablers. *Rural Remote Health*. 2015;15(3):2942. [PubMed](#)

Frameworks: Unclear or Alternative Guidance

Alberta Health Services. Community & Rural Health Planning Framework. <https://www.albertahealthservices.ca/info/Page4057.aspx> Accessed 2022 Sep 8.

Note: Provides some general guidance, but was not included in the main results due to lack of detail.

Biobak J, Morris J, Nur F, Asad F. Rural Health Infrastructure in Ontario: A Rapid Review. Ottawa (ON): Spatial Determinants of Health Lab, Carleton University. 2021. <https://carleton.ca/determinants/wp-content/uploads/RapidReview-HealthInfrastructure.pdf> Accessed 2022 Sep 13.

Note: A rapid review focused on rural health infrastructure. Refer to Policy Recommendations (p.3) for a summary of recommendations based on their review.

Rural Health Information Hub. Community Organization Model. <https://www.ruralhealthinfo.org/toolkits/health-promotion/2/program-models/community-organization> Accessed 2022 Sep 12.

Note: A model focused on how to involve the community to identify key health issues and strategies to address them.

Rural Health Information Hub. Community Readiness Model. <https://www.ruralhealthinfo.org/toolkits/health-promotion/2/program-models/community-readiness> Accessed 2022 Sep 12.

Note: A model focused on determining how ready a community is to address a particular health issue.

A Playbook for New Rural Healthcare Partnership Models of Investment. Oakland (CA): Build Healthy Places Network. 2022. <https://buildhealthyplaces.org/downloads/Build-Healthy-Places-Network-Rural-Playbook.pdf> Accessed 2022 Sep 12.

Refer to Five-Step Path to Multisector Rural Partnerships (pages 33 to 35). The focus of this report is developing multisector partnerships (between healthcare organizations and other sectors such as the local community and economic development) in US-based systems. However, their list of suggested steps includes considerations that may be useful for planning healthcare in rural areas more broadly (e.g., engaging with the community, assessing the community's assets).

Rethinking acute medical care in smaller hospitals. London (UK): Nuffield Trust. 2018. <https://www.nuffieldtrust.org.uk/research/rethinking-acute-medical-care-in-smaller-hospitals> Accessed 2022 Sep 13.

Note: Focused on smaller hospitals, not specific to rural or remote; however, provides some suggestions that may be applicable to and useful when considering how to plan services provided in rural hospitals.

For practical recommendations, refer to Improving Existing Acute Medical Services: Practical Solutions (pages 5 to 7).

For principles to consider when redesigning how to provide acute care, refer to Core Principles for Redesigning Acute Medicine in Smaller Hospitals (p. 8).

Models of Care

Nancarrow SA, Roots A, Grace S, Saberi V. Models of care involving district hospitals: a rapid review to inform the Australian rural and remote context. *Aust Health Rev*. 2015;39(5):494-507. [PubMed](#)

Note: This review summarizes models of care that are related to district hospitals and to rural and remote Australia. Most studies were focused on specialty care. There is a brief discussion of Indigenous patients (p. 505) and emergency care (p. 505) that may be of interest.

The Future of Rural Health. Kansas City (MO): National Rural Health Association. 2013. <https://www.ruralhealth.us/getattachment/Advocate/Policy-Documents/FutureofRuralHealthFeb-2013.pdf.aspx?lang=en-US> Accessed 2022 Sep 15.

Note: This report provides primarily recommendations specific to the US context, although some guidance may be applicable to the Canadian or other contexts. Some sections that may be of interest include Guidelines and Measures to Fast-Track Rural Health Care Innovation Grant Demonstration (p. 22), Incentivizing New Models of Care (pages 22 to 24), and Transforming Existing Models of Care (pages 24 to 25).