International Journal of Mental Health Systems

REVIEW

Open Access

Assessment of barriers to accessing mental health services in rural or remote areas using a socio-ecological resilience framework: a scoping review

Yannan Jiang[1,2], Kelly Lin[1,2,3], Hazel Dalton[1], Nicholas Buys[3] and Jing Sun[1,3,4*]

Abstract

People living in rural and remote areas face many barriers when trying to access mental health services. These barriers include a lack of resources, not enough services, difficulty finding and keeping staff, long distances, cultural differences, and low awareness of mental health issues. This scoping review followed the PRISMA-ScR framework and searched seven major databases: PubMed, EMBASE, The Cochrane Library, Scopus, PsycINFO, Web of Science, and CINAHL Complete. Studies were included if they used qualitative, cross-sectional, or cohort designs and followed JBI guidelines. A total of 30 studies from 11 countries were reviewed. Barriers were grouped into four levels: system/policy, social/community, family, and individual, which are based on the Socio-ecological Resilience Framework. At the system and policy level, common problems were insufficient resources, complex systems, technology challenges, privacy concerns, poor service quality, staff shortages, and high costs. The challenges at the social and community level included distance, cultural differences, stigma, low awareness, and environmental pressures. Family-level barriers were weak family or peer support, stigma within families, and poor education. Individual barriers included low quality of life, poor understanding of mental illness, and negative attitudes toward mental health services. Although the review only covered studies from 2007 to 2024 and did not include all populations, it offers important information. A socio-ecological resilience approach may help improve mental health services in rural and remote areas.

Keywords Rural health services, Socio-ecological resilience framework, Barriers, Scoping review, Mental health

*Correspondence:
Jing Sun
jinsun@csu.edu.au
[1]Rural Health Research Institute, Charles Sturt University, Orange NSW2800, Australia
[2]School of Medicine and Dentistry, Griffith University, Gold Coast Q4215, Australia
[3]School of Health Services and Social Work, Griffith University, Gold Coast Q4215, Australia
[4]Data Science Institute, University of Technology Sydney, Sydney NSW2007, Australia

Background

Globally, mental health services often struggle with resource allocation, staff recruitment and retention. This is especially true for rural and remote communities when available services are scarce. Because residents in rural areas are more dispersed, providing adequate health care, including mental health professionals, is costly and challenging [1, 2]. Numerous studies have addressed challenges in rural and remote healthcare, such as a lack of personnel, excessive workload, disparities in health status between rural and urban demographics, and the absence of appropriate rural/remote healthcare facilities [3–15]. Consequently, these challenges, combined with a lack of mental health services, result in substantial barriers to accessing mental health services for those living in rural and remote regions. In addition, people in rural areas are often geographically widespread and come from a variety of cultural backgrounds [16, 17], with some studies attributing their reluctance to use mental health services due to their concerns over anonymity and confidentiality [18–21]. This is likely based on conjecture informed by the stigma associated with mental health. It has been proposed that rural areas may benefit from specialised mental health services; however, studies have shown that rural residents often do not utilise available specialised mental health care due to their unawareness of mental health issues [17, 22, 23].

Given the growing diversity and constant economic and social shifts in rural regions [19, 20, 24], the complex nature of rurality is characterised by several recurring challenges, including reduced access to healthcare and services, geographical isolation, a distinctive rural lifestyle or culture, and specific socio-economic constraints [25]. These challenges can be conceptually explored through the Socio-ecological Resilience Framework, which explains how individuals, families, communities, and systems cope with and recover from adversity [26–30].

This review applies the Socio-ecological Resilience Framework as the core analytical model, which conceptualizes the interaction of four interconnected levels—system/policy, social/community, family, and patient—to understand how barriers and facilitators operate across these domains. The framework is particularly suited to rural and remote mental health contexts because it not only identifies vulnerabilities but also highlights adaptive capacities within individuals, families, communities, and service systems. By positioning resilience as both an outcome and a process, this review allows it to interpret barriers as opportunities for adaptation and improvement rather than as static deficits [26–34].

Anxiety and depression were selected as the primary focus of this review because they are the most prevalent mental health conditions in rural areas, where access to care is particularly limited [1, 2, 35]. This review aims to explore how barriers at the system/policy, community, family, and individual levels, as outlined in the Socio-ecological Resilience Framework, impact mental health service delivery in rural areas.

The aims of this review were to (1) examine barriers hindering the effective delivery of mental health services in rural and remote areas by identifying system/policy-level, community-level, family level and patient-level barriers that hinder their access to mental health services; and (2) identify gaps in the current research on socio-ecological resilience framework to access mental health services in rural and remote areas and how these gaps can be addressed to improve outcomes.

Method

The scoping review strictly conforms to the methodological framework set forth by Arksey and O'Malley [36] follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for scoping reviews (PRISMA-ScR) [37]. The PCC (Population/Concept/Context) framework, as described by Arksey and O'Malley (2005), was applied to guide the selection of studies for this scoping review. This framework helps systematically identify and evaluate the barriers to accessing mental health services by clearly defining the target population, the specific mental health conditions (anxiety and depression), and the context of rural and remote communities [37].

Eligibility criteria

The scope of this review focused on the barriers that hinder access to and use of mental health services by people living in rural and remote areas globally. The inclusion criteria were as follows:

- Barriers must be described at one or more of the following levels: systems/policy, social/community, family, and patient. Articles were eligible for inclusion if they discussed barriers at any one of these levels.
- Mental health conditions: Articles were required to focus on individuals diagnosed with or experiencing anxiety or depression in rural or remote areas. The decision to focus on these two mental health conditions was based on their prevalence and significance in rural areas, where access to mental health services is particularly limited. Anxiety and depression are among the most common mental health conditions in these regions, thus providing a clear and relevant focus for this review.
- Population: The study included adults (18 years or older) who have experienced mental health issues or needed mental health services, as well as healthcare

providers who offer diagnostic, assessment, or treatment services for mental health problems.
- Study Design: Studies using qualitative, cross-sectional, or cohort designs were eligible, provided they adhered to JBI guidelines for scoping reviews.
- Geographical Focus: Studies focused on populations in rural or remote areas, as defined by each study's local context (e.g., distance to the nearest city, access to specialized healthcare services). The definition of rural or remote areas was informed by local classifications, as many studies use different criteria based on country-specific parameters.

This scoping review used the Population/concept/context (PCC) framework to establish the criteria for eligibility. The population for this scoping review was the rural or remote area adult populations, who have experienced a mental health problem or need mental health services or all the healthcare providers providing diagnostic, assessment, or treatment for mental health issues, such as primary healthcare, psychotherapy, psychiatrist, psychologist, psychiatric drugs, etc. The concept of this article was the barriers to accessing mental health services. The context was regional, rural and remote areas all over the world.

The external criteria of this scoping review were:

- Exclusion criteria:
  - Studies not published in English.
  - Participants under 18 years of age.
  - Studies that did not include a population from rural or remote regions.
  - The study did not measure access to mental health care services.
  - Patients with comorbidities in addition to mental illness.
  - Studies with interventions.

Application of the Socio-ecological resilience framework

The Socio-ecological Resilience Framework guided the analysis of the barriers identified in the included studies. This framework divides barriers into four levels: system/policy, social/community, family, and patient. Each level was used to categorize the barriers described in the studies. However, the Socio-ecological Resilience Framework was not used as a selection criterion for included studies. Instead, it was applied during the analysis phase to help organize the findings and ensure that the results reflect the complex and interconnected nature of barriers to mental health service access in rural areas.

Studies were selected based on whether they described barriers that affected mental health service access in rural and remote regions. Once studies were selected, the Socio-ecological Resilience Framework was applied to categorize these barriers. In some cases, studies identified barriers that did not neatly fit into the Socio-ecological Resilience Framework, but these were still included as they provided relevant insights into the barriers faced by individuals living in rural areas.

Information sources

The databases searched systematically included (1) PubMed and EMBASE, (2) The Cochrane Library, (3) Scopus, (4) PsycINFO, (5) Web of Science, and (6) CINAHL Complete. The search was performed on 5 August 2024 and applied a date filter from 2007 to present using the 'Start' and 'End' publication year features.

Search

The search strategy was initially designed with the supervisor (JS) to identify peer-reviewed studies. The following key terms were used in the search using Boolean operators (OR, AND). Quotation marks will be placed around search terms. The complete search strategy is shown in Supplementary Table 2.

Selection of sources of evidence and the data charting process

YJ applied the search strategy to six databases. YJ and KL, as reviewers, screened all the articles independently using EndNote. A meeting was held to determine consensus if disagreements on an article occurred. If the conflict could not be resolved, a third researcher (JS) decided. YJ extracted data for each eligible article using Microsoft Excel.

Data items

Characteristics relating to author, year, study location, study objective, study design, sample size, characteristics, mental health condition/issue and assessment method, healthcare provider, barriers, type of mental health services, rural/remote areas, and summary of findings were extracted from eligible studies (Supplementary Table 3). For articles with information on metropolitan and regional/rural/remote areas, the information related to participants from regional/rural/remote regions was extracted. As the purpose of a scoping review is to provide an overview or map of relevant evidence, the quality of the included studies was not assessed [38].

Result

A total of 1879 articles were retrieved from the six databases, of which 417 were excluded due to duplication. After that, the remaining 1462 articles were screened based on title and abstract, of which 1182 were excluded due to ineligibility and one article was retracted. The remaining 279 articles were reviewed in full text, 249

studies were excluded, and 30 met the inclusion criteria. Figure 1 shows the PRISMA process for each screening stage.

Study characteristics

The scoping review encompasses 30 studies that comprehensively overview mental health service delivery worldwide in rural and remote areas (Table 1 and Supplementary Table 1).

In 30 articles, three described the mental health care services providers' opinions about barriers, nineteen described the barriers to mental health care service users' views, five reported a combination of healthcare provider and service user perspectives, one article reported a combination of healthcare providers and policymakers, and three reported a combination of healthcare providers, policymakers, and service users.

The studies span various regions, including Australia (n = 13) [35, 39–50], America (n = 8) [51–58], and Canada (n = 1) [59], which are the high-income countries; South Africa (n = 1) [60], which are the middle-income countries; and Vietnam (n = 2) [61, 62], India (n = 1) [63], Mexico (n = 1) [64], Cambodia (n = 1) (64), Liberia (n = 1) (64) and Malawi (n = 1) [65], which are the low-income countries [66]. Table 1 illustrates the characteristics of the included studies.

There are 13 mixed methods research designs. A total of 16 studies were cross-sectional survey-based studies [35, 40–42, 47–49, 51–53, 55, 58, 59, 64, 65, 67]. The scales, such as the Barriers to Help Seeking Scale (BHSS) [39, 40], Brief Symptom Inventory-18 (BSI-18) [52, 55], Patient Health Questionnaire (PHQ-9) [43, 61, 63], the 36-Item Short Form Health Survey (SF36) [46, 50] and the 12-Item Short Form Health Survey (SF12) [35] were utilised to access the barriers to mental health services.

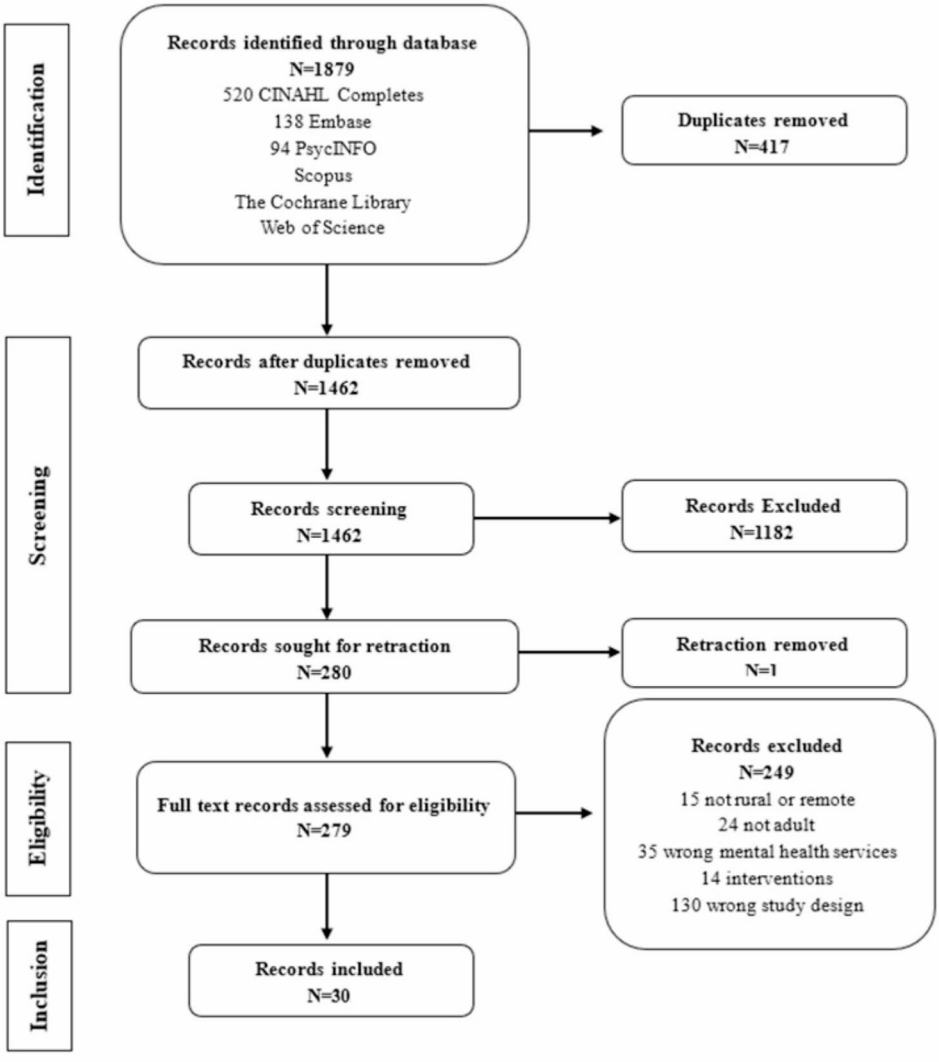

Fig. 1 PRISMA flow diagram

Table 1 Characteristics of the included studies

Author & year	location/countries	Population	Type of mental health service	Study design	Barriers identified
Hull et al., 2017 [39]	Rural regions of South Australia • Eyre Peninsula • Riverland and Yorke Peninsula/Copper Coast)	Farming and non-farming rural adults Total number: $N=123$ Non farmers: $n=78$ Farmers: $n=45$	General mental health services	• Quantitative study • Cross-sectional survey. • Computer-assisted telephone interview (CATI). Barriers to Help-Seeking Scale (BHSS)	• Both farmers and non-farmers, especially in rural areas, face limited access to mental health services. • Communication challenges with health professionals • Distrust of healthcare professionals • Community stigma and discrimination • Preference for help from family and friends rather than professional healthcare services • Self-reliance and need for control • Minimising the problem
Haynes et al., 2017 [51]	Jefferson County, Arkansas Delta, USA	Rural African Americans ($N=50$)	General mental health services	• Qualitative research Semi-structured interviews within focus groups 7 focus groups Health care providers; Clergy and parishioners; Mental illness patients; College students and administrators.	• Mental health services are perceived as complex, which complicates access to care. • Community stigma and discrimination • A lack of general knowledge about mental health within the community • A lack of adequate family and peer support networks • Fear of judgment or being labelled negatively
Fennell et al., 2018 [40]	Rural and remote regions in South Australia (Eyre Peninsula, Riverland and Yorke Peninsula/Copper Coast)	Rural South Australian adults Total number: $N=409$	General mental health services	• Quantitative study • Cross-sectional survey • Computer-assisted telephone interview (CATI) Barriers to help-seeking (BHSS)	• Attitudinal barriers such as 'need for control and self-reliance', 'minimising the problem, resignation and normalisation' and 'emotional control'. • Privacy (and stigma) as a barrier to accessing support for mental health issues • Women consider long wait times to access health services a barrier to mental health conditions
Deen et al., 2012 [55]	Rural towns with populations fewer than 5,500 located outside major commuting and economic patterns of metropolitan areas, Mid-southern United States	The rural Mid-southern United States population total number: $N=99$ (43% male)	Speciality mental health services including psychiatrists, psychologists, counsellors, and social workers	• Quantitative study • Cross-sectional survey • Interviews over the telephone • Brief Symptom Inventory-18 (BSI-18) • National Survey of American Life A vignette created by Rost et al.	• Insufficient understanding of the need for mental health services, outcome expectations, and the value of treatment outcomes (Primary care services are more useful than specialist mental health services for depressive symptoms and have more favourable outcome expectations for primary care). • Lack of transportation • Stigma and anonymity
Deen et al., 2011 [52]	Central Arkansas Veterans Healthcare System, North Little Rock, Arkansas, USA and University of Arkansas, Fayetteville, Arkansas, USA	Rural American Total number: $N=99$ (43% male)	General mental health services	• Quantitative study • Cross-sectional survey • Brief Symptom Inventory-18 (BSI-18) • A vignette created by Rost et al. National Survey of American Life	• Only 53% of participants were able to accurately identify depressive symptoms, and males in particular had lower depression literacy rates (35%). • Limited access to appropriate treatment options for emotional problems in rural areas • Community stigma and attitudes • Participants were more likely to seek help from religious leaders

Table 1 (continued)

Author & year	location/countries	Population	Type of mental health service	Study design	Barriers identified
Ryan-Nicholls et al., 2007 [59]	Rural and isolated regions of Canada	Canadians in rural and isolated Canada Total number: $N=30$ $n=30$	General mental health services	• Qualitative research Focus group interview Two focus groups: $n=6$ (mental health care staff, social worker, and registered nurse) $n=8$ (registered psychiatric nurses and social workers)	• Difficulties related to access to primary mental health care, diagnostic services, and specialised treatments due to geographic isolation and insufficient local services. • Provider shortages • Policy, legislation, and regulation challenges, such as jurisdictional barriers, inconsistent policy interpretations, and restrictive program mandates • Privacy or confidentiality concerns • Community stigma and discrimination • Attitude toward mental health services
Happell, 2008 [41]	Victoria, Australia	Consumers of mental health services in Australia Total Number: $N=16$	General mental health services	• Qualitative exploratory Focus group interviews metropolitan service: $n=9$ rural service: $n=7$	• Lack of labour • Negative experiences and relationships with mental health service staff: lack of understanding between patients and doctors; Lack of trust • Lack of safety and security • Lack of support group in the community • Community stigma • Lack of patient understanding of mental illness
Thomas et al., 2015 [42]	Rural and remote communities in Australia	Panellists with expertise in rural, remote or Indigenous PHC, $N=28$ (Delphi experts)	Primary mental health services	• Delphi method Face-to-face focus group $n=26$ (responding to the first survey) $n=12$ (face-to-face meeting)	• Lack of Local Services: Insufficient availability of services within rural and remote communities. • Workforce Shortages: a lack of health professionals willing to work in rural and remote areas. • High costs associated with delivering healthcare services • Geographic and cultural differences • Acceptability and awareness, particularly regarding the social and emotional well-being of residents
Perkins et al., 2013 [43]	Regional and remote area of New South Wales, Australia	Adult residents from rural regions of NSW, Australia Total number: $N=2150$	General mental health services	• Quantitative study • Cross-sectional survey•	• Geographic and financial barriers to service such as distance, time taken to get appointments, and the limited availability of local mental health services • A shortage of mental health professionals in rural and remote regions • Community stigma • Attitude toward mental health services such as stoicism
Batterham et al., 2020 [44]	Australia	Residents with mental disorders in rural, regional, and metropolitan areas of Australia Total number: $N=2378$	Doctor/GP, social worker, hospital, psychologist, psychiatrist, or counsellor	• Quantitative study • Cross-sectional survey • Accessing Mental Health survey; • Stigma of Suicide Scale (SOSS) Distress Questionnaire-5 (DQ5)	• Residents in rural areas faced challenges related to service accessibility, minimal access to specialised mental health services, such as psychologists • A shortage of mental health professionals in rural areas • Community stigma • Attitude toward mental health services: high self-reliance
Gwaikolo et al., 2017 [69]	Sinoe, River Gee and Grand Kru, Liberia	Rural Liberia Total key informants: $N=22$ Six focus groups: $N=49$ Primary care health facilities: $N=19$	Primary care health facilities	• Mixed methods • Qualitative interviews • Focus group Quantitative data – Facility survey	• Lack of mental health drugs, poor physical infrastructure • Lack of communication support (e.g., no electricity or mobile networks for referrals) • A lack of mental health knowledge among primary healthcare staff • Community stigma • Stigma towards individuals with mental disorders • The cultural perceptions of mental illness

Table 1 (continued)

Author & year	location/countries	Population	Type of mental health service	Study design	Barriers identified
Hill et al., 2016 [57]	Rural South-Central Appalachian	Women at a rural primary care clinic in Appalachia Total number: *N* = 22	Rural primary care clinic	• Qualitative research Individual interviews patients: *n* = 18 providers: *n* = 4	• Operational barriers, such as infrequent patient visits for well-being checkups, inadequate time for mental health discussions, and the need for better reimbursement for mental health services • Mental health providers expressed a lack of training in addressing mental health concerns • Both patients and providers highlighted the significant role of stigma • Patients expressed feeling a lack of financial, social, and provider support, making it difficult to access mental health services • Lack of mental health literacy • Some patients were resistant to seeking professional help
Benjamin et al., 2021 [60]	Calvinia and Lambert's Bay, South Africa	People with mental illness living in South Africa Total number: *N* = 46	General mental health services	• Qualitative research Semi-structured individual interviews	• A severe shortage of mental health services and facilities • Lack of human resources: Limited staff who specialise in mental health-related services • Community stigma and discrimination • Lack of knowledge and understanding of mental health
Roberts et al., 2020 [63]	Sehore sub-district, India	Adults with probable depression in rural India Total number: *N* = 35	General mental health services	• Qualitative study Patient Health Questionnaire (PHQ-9)	• Healthcare providers were focused primarily on treating somatic symptoms and often did not have the time or resources to address psychological or social issues related to depression • Lack of access to trained mental health professionals in the region • A general lack of access to trained mental health professionals in the region • Community stigma and discrimination • Lack of family support and decision-making dynamics: health-seeking behaviour was influenced by male relatives, often leading to delays in seeking treatment for depressive symptoms • Attitude toward mental health services • Psychological symptoms were frequently seen as "tension" or stress, distinct from mental illness.
Olofsson et al., 2018 [68]	Lvea Em District, Kandal Province, Cambodia	Informants in the rural district of Lvea Em, Kandal Province, Cambodia Total number: *N* = 14	General mental health services	A situational analysis	• Lack of budget for mental health services • Insufficient mental health training of health care workers • Shortage of trained professionals for mental health care • No mental health treatments or screening tools available • Stigma associated with mental illness in the community • Avoid seeking help for mental health issues due to cultural beliefs
Petterson et al., 2009 [56]	Rural areas of the United States	Different racial and ethnic groups in rural areas Total number: *N* = 36,288,	General mental health services	• Quantitative study • Cross-sectional design • Medical Expenditure Panel Survey (MEPS) • 5-point Likert scale Self-Reported	• Limited access to mental health treatment in rural areas • Fewer mental health professionals are available in rural areas • Stigma related to mental illness and perceived cultural dissimilarities between providers and racial/ethnic minority patients can deter individuals from seeking mental health services • Stigma and a lack of trust in the healthcare system

Table 1 (continued)

Author & year	location/countries	Population	Type of mental health service	Study design	Barriers identified
Nguyen et al., 2021 [61]	Chuong My District – a rural district located in the west of Hanoi, Vietnam	Elderly in rural Hanoi, Vietnam Total number: *N* = 376	General mental health services	• Quantitative study • Cross-sectional Survey • Perceived Barriers to Psychological Treatment (PBPT) scale • Patient Health Questionnaire (PHQ-9) scale Multidimensional Scale of Perceived Social Support (MSPSS)	• Limited availability of mental health professionals and services • Geographic and financial accessibility • Limited transportation, not having health insurance, and financial disadvantages • Community stigma and discrimination • Many elderly people did not perceive their mental health problems as serious or requiring medical treatment • Physical health problems and limited ability to carry out daily activities • Service Satisfaction: past negative experiences with counsellors or a distrust of counsellors • Time constraints: elderly individuals may have responsibilities that take precedence over their own healthcare
Giang et al., 2010 [62]	Bavi, a rural district in the North of Vietnam	Different socio-demographic groups in North Vietnam total number: *N* = 3,425	General mental health services	• Quantitative study • Cross-sectional Survey Self-Reporting Questionnaires (SRQ-20)	• There is limited access to mental health services in rural areas • A shortage of mental health specialists and the limited training of primary health care staff • Stigma associated with mental health issues was prevalent in the community • Many individuals with mental distress sought health care for somatic symptoms rather than emotional or psychological issues • A lack of awareness and understanding of mental health problems
Knight et al., 2020 [45]	Remote, regional, and urban Australia	Older adults in rural areas in Australia Total number: *N* = 94 Focus groups and in-depth interviews: *n* = 21	General mental health services	• Mixed methods design Quantitative: surveys, • National Mental Health Literacy Survey Barriers to Mental Health Services Scale-Revised (BMHSS-R) • Qualitative: focus groups, and in-depth interviews	• Access to mental health services was more limited for those in inner regional areas compared to outer regional or urban areas • Cost was a significant barrier • Intent to Seek Help: Inner regional respondents were less likely to seek help from a mental health professional than urban respondents. • Value of self-sufficiency • Mental health services were only necessary for severe conditions • Recognition of Psychological Problems: Participants had difficulty recognizing anxiety and determining when symptom severity should indicate seeking help • Lack of knowledge about local services
Bocker et al., 2012 [58]	Rural communities across Northwest Illinois	Older adults (> 50 years old) in Northwest Illinois Total number: *N* = 150	Primary mental health services	• Quantitative study • Cross-sectional survey • SF-12 Durham GRECC Depression Scale	• A shortage of mental health professionals • Expense of healthcare and medical visits: The financial burden of accessing mental health services can be prohibitive for many older adults • Community stigma and discrimination • The lack of strong family support systems for older adults • Denial or underestimation of the seriousness of mental health conditions by patients themselves • Physical health problems and transportation issues • Daily pressures and challenges faced by older adults in rural areas can impede their ability to seek and engage in mental health treatment

Table 1 (continued)

Author & year	location/countries	Population	Type of mental health service	Study design	Barriers identified
Esponda et al., 2022 [64]	Chiapas, Mexico	Mental health service users in rural Mexico Total number: *N* = 30 (28 female)	Primary health care	• Qualitative study Semi-structured interviews	• Geographic constraints, lack of available services, and long waiting times • A lack of trained healthcare workers in these rural communities • Stigma associated with mental illness, especially within the family • Many participants delayed help-seeking because they believed they could manage their symptoms independently or thought the symptoms would subside over time • Lack of attribution of symptoms to a mental health condition • Cost of treatment • Negative experiences with service providers • Reliance on informal care, e.g. prayer
Doljagore et al., 2014 [46]	Australia	Rural and non-rural Australian women aged 28–33 years Total number: *N* = 4316	Medicare items under the 'Better Access Scheme' (BAS), including services from psychologists, allied health care workers, psychiatrists, and GPS	• Quantitative study • Longitudinal study • survey • Study Short Form (SF36); The Accessibility/Remoteness Index for Australia (ARIA+)	• Geographic isolation and Lack of local mental health services • The limited availability of mental health professionals in rural areas • Financial barriers, including the inability to afford out-of-pocket costs for mental health services • Stigma and confidentiality concerns in small, close-knit communities • Rural women were less likely to perceive their mental health conditions as requiring professional care. They were more likely to rely on primary care providers (GPs) rather than mental health specialists for treatment.
Gardiner et al., 2020 [47]	Australia	The cost to mental health services in rural and remote communities Total number: *N* = 1048 Total patients retrieved via air medical services in 2017: Primary evacuations: *n* = 122 Interhospital transfers: *n* = 926)	The Royal Flying Doctor Service (RFDS)	• Cost analysis study Diagnosis of ICD-10-AM Chapter V codes F00-F99 (mental and behavioural disorders) ICD-10-AM coding method	• Lack of availability of mental health services • A notable shortage of mental health professionals in rural and remote regions • Distance to mental health services • Cultural factors in rural communities • Environmental challenges, including drought, fires, and climate change, and the recent Coronavirus pandemic
Chikasema et al., 2021 [65]	Southern Malawi	Mental health services users in Southern Malawi Total number: *N* = 216	The outpatient mental health services	• Quantitative study • Cross-Sectional Study The Charleston Psychiatric Outpatient Satisfaction Scale (CPOSS)	• Less satisfied with the mental health services due to previous negative experiences • A shortage of mental health professionals in rural areas • The stigma associated with mental health conditions • Involuntary admissions and restraint of service users experiencing

Table 1 (continued)

Author & year	location/countries	Population	Type of mental health service	Study design	Barriers identified
Pass et al., 2019 [53]	Iowa, USA	Older adults with multiple comorbidities in rural Iowa Total number: *N* = 15	Primary health care: Medicare, Medicaid, and private insurance	• Qualitative study. The semi-structured interview	• Distance to providers and transportation challenges • A shortage of mental health providers, including psychiatrists and therapists, further complicates access to services • High out-of-pocket costs and inadequate insurance coverage • Community stigma and discrimination • Many patients did not initiate conversations about mental health with their primary care providers unless prompted • A lack of understanding about available mental health services and confusion about different types of providers
Judd et al., 2007 [48]	Rural north-west Victoria, Australia	Residents with mental health problems in rural north-west Victoria Total number: *N* = 391	General mental health services	• Quantitative study • Cross-sectional, community-based study The Structured Clinical Interview	• Lower use of specialist services in remote areas • A shortage of mental health professionals, particularly in smaller towns • Stoic attitude • Stigma surrounding mental health • Many rural residents are less likely to seek help for mental health problems
Muir-Cochrane et al., 2014 [49]	a rural region of Australia	Older people with mental health problems Total number: *N* = 19	managers of residential and community aged care services; coordinators of programmes and care packages; nurses; occupational therapists, social workers, counsellors, and mental health clinicians specialising in the care of older adults	• Qualitative research design Semi-structured Interviews	• Difficulty in accessing mental health services due to the rural location, with limited availability of mental health professionals and the need for older adults to travel long distances to receive care • Service unavailability or inaccessibility • Health professionals focusing on physical illness and dismissing mental health concerns • A shortage of mental health professionals and services in rural areas • Stigma surrounding mental health issues, particularly in small rural communities • Many older adults are reluctant to acknowledge or seek treatment for mental health issues • Older adults may not recognize their mental health symptoms • Lack of trust in mental health treatment • Stoicism Inadequate referral processes Competition for resources between organisations
Gonzalez-Chica et al., 2020 [35]	Major city, inner regional and outer/remote South Australia, Australia	South Australians aged 15 + years who use mental health services Total number: *N* = 2977 mental illness patients: 535	General mental health services	• Quantitative study • Cross-sectional study • Medical Outcomes Study Short Form 12 (SF-12v1) physical component score (PCS) mental component score (MCS)	• Had fewer local mental health services available • The shortage of mental health professionals in rural areas • Stigma around mental health issues was found to be higher in rural communities • Individuals in rural areas were more likely to perceive mental health services as unnecessary or only needed for severe conditions

Table 1 (continued)

Author & year	location/countries	Population	Type of mental health service	Study design	Barriers identified
Chen et al., 2022 [54]	Rural and urban areas of the United States	Privately insured US adults aged 18–64 during 2005–2018 *N* = 7.4 million to 30.1 million enrolees per year from 2005 to 2018	Outpatient mental health services for depression, anxiety disorders, and substance use disorder	Quantitative study Longitudinal study	• Had fewer outpatient visits for depression, anxiety disorders, and substance use disorders compared to their urban counterparts • Service inadequacies and gaps: lack of mental health service workforce • Rural patients incurred a higher share of out-of-pocket (OOP) expenses compared to their urban counterparts, despite lower total payments per visit. • Rural beneficiaries relied more on primary care providers and less on psychiatrists and psychologists
Dolja-Gore et al., 2023 [50]	Metropolitan, inner regional, outer regional, and remote/very remote areas of Australia	Rural and non-rural Australian women aged 28–33 years Total number: *N* = 4458	Better Access Scheme (BAS) mental health services, including counselling, psychiatry, and GP services	• Quantitative study • cohort study Self-reported Kessler SF36-mental health score	• Women in rural and remote areas had fewer mental health services available, particularly through the Better Access Scheme (BAS) • The shortage of mental health professionals in rural areas • Stigma or reluctance to acknowledge mental health problems • Women in rural and remote areas were less likely to continue using mental health services, even though they had greater mental health needs. • Waiting times and access to mental health services are insufficient in rural areas

Data were typically collected through computer-assisted telephone interviews (CATI) in 6 studies [39–42, 51, 55]. In addition, raw data from the National Living Survey and the Medical Expenditure Panel Survey (MEPS) were combined to meet the quantitative aspects of the objectives regarding mental health in 2 studies [52, 55, 56].

Mental health service setting

Among 30 studies, 16 studies reported on general mental health services [35, 39–41, 43, 45, 48, 51, 52, 56, 59–63, 68], six studies described primary mental health services [42, 53, 57, 58, 64, 69], and two studies described the tertiary level specialty mental health services such as psychiatrists, psychologists, counsellors, and social workers [44, 55], two studies described the outpatient mental health services [54, 65], and one study described mental health services provided by The Royal Flying Doctor Service (RFDS) [47]. In addition, two studies described the Better Access Scheme (BAS) mental health services [46, 50], and one study outlined the roles of residential and community care managers for the elderly, program coordinators, care package administrators, and mental health professionals specialising in senior care [49].

Target groups

This scoping review provided an overall understanding of 32 target populations and various study designs, focusing on the composition of the groups and studies. The groups range from small, focused studies to population-level cross-sectional survey studies. In particular, the smaller groups included 15 rural Iowa older adults in the USA [53], 16 Australian mental health service users [41], and 19 patients aged 70 and over with mental health problems in rural Victoria, Australia [49]. The medium-sized group included 50 rural African Americans [51], 99 rural Americans [52, 55], and 409 South Australian adults [40]. The larger group included 2150 residents from rural New South Wales, Australia [43], 2378 rural and metropolitan Australians with mental health problems [44], and 4316 Australian women aged 28–33 years from rural and metropolitan areas [46]. The largest and most representative dataset of the 30 studies covers between 7.4 million and 30.1 million U.S. adults surveyed annually between 2005 and 2018, which is the range of the quantitative studies [54]. The focused and qualitative surveys were conducted with relatively small participant groups, including 22 key stakeholders or healthcare providers, six focus groups involving a total of 49 participants, and 19 primary care health facilities in rural Liberia [57].

Barriers under the socio-ecological resilience framework

The included studies were categorised according to the Socio-ecological Resilience Framework. The framework is divided into four levels: system/policy level, social/community level, family level, and patient level. Each category has several subcategories.

Barriers under the system/policy level

The system/policy level refers to the overarching structures and policies that govern the delivery and accessibility of mental health services within a healthcare system. The barriers under the system/policy level include limited

resources (28 articles), workforce shortages (21 articles), quality of mental health services (9 articles), cost of services (8 articles), system complexity, technological limitations, and navigation (3 articles), privacy or confidentiality concerns (2 articles), and policy (1 article).

1. ***Resources are limited*** According to the studies, the most significant barrier was the limited resources [35, 39, 40, 42–50, 52–64, 68, 69]. This barrier includes the long waiting time for the treatment, lack of locally available general and specialised services such as primary mental health care, diagnostic services, and specialised therapies, poor physical infrastructure, lack of and limited capacity, and lack of communication support (e.g., no electricity or mobile networks for referrals) [69]. Also, the cost of delivering mental health services to rural areas is high [42].
2. ***Workforce shortage*** Rural regions face unique challenges in attracting and retaining qualified healthcare professionals, directly limiting access to essential mental healthcare. This shortage is characterised by a lack of specialised mental health professionals such as psychiatrists, psychologists, and counsellors, making it difficult for rural populations to receive timely and effective care. The key issue is the difficulty in recruiting and retaining mental health professionals, and the turnover of staff in rural areas [35, 39, 41–44, 46–48, 50, 53, 54, 56, 58–60, 62–65, 69].
3. ***Quality of mental health service*** Lack of awareness by mental health service providers, negative experiences and low satisfaction from the mental health service providers are the main points under the quality of mental health services [39, 41, 49, 57, 61, 64, 65, 68]. Negative experiences included instances such as feeling dismissed or misunderstood by healthcare professionals, encountering unhelpful or stigmatizing attitudes towards mental health, or experiencing poor outcomes due to inadequate care [61, 64, 65]. Lack of awareness of mental health was described as having a limited understanding of mental health needs by healthcare providers, such as health professionals focusing on physical illness and dismissing mental health concerns.
4. ***Cost of service*** The cost of mental health services plays a critical role in determining whether individuals can access the care they need. For many patients, the high cost of treatments, therapies, and medications associated with mental health services creates a significant barrier to receiving timely and effective care. This issue is particularly prevalent in rural or low-income areas where individuals may not have the financial insurance or support to afford specialised mental health services, especially when out-of-pocket expenses are high [42, 45, 46, 53, 54, 58, 61, 64].

Barriers under the Social/community level

The Social/Community Level focuses on the social, cultural, and community factors that influence mental health service use and the well-being of individuals within a society. The barriers under the system/policy level include community stigma and discrimination (28 articles), geographic and cultural differences (5 articles), lack of community awareness (1 article), and environmental stress (1 article).

1. ***Community stigma and discrimination*** Community stigma and discrimination are widespread societal issues that significantly impact the utilisation of mental health services, particularly in rural or tightly knit communities. In many cases, individuals may be labelled as "crazy," "dangerous," or incapable of functioning within society, which further marginalises them and creates a barrier to seeking help [35, 39–41, 43–46, 48–63, 65, 68, 69].
2. ***Geographic differences*** Geographic and cultural differences play a significant role in accessing the mental health services of rural area users [42, 47, 52, 64, 68]. In rural or remote areas, geographic barriers such as long distances to the nearest healthcare facility, poor transportation infrastructure, and the isolation of communities can severely limit access to mental health services.
3. ***Cultural differences*** Cultural differences in rural areas, such as prevailing beliefs, attitudes, and stigmas regarding mental health, may prevent individuals from seeking help. Cultural factors also play a role in perpetuating stigma [42, 47, 64]. In some cultures, mental illness is viewed as possession by demons, and some patients were more likely to seek help from religious leaders [52].

Barriers under the family and peer level

The Family Level in the Socio-ecological Resilience Framework plays a crucial role in influencing the mental health outcomes of individuals, particularly in rural or remote areas where external mental health resources may be limited. At this level, peer and family support (4 articles), family stigma (1 article).

1. ***Peer and family support***. Lack of family and peer support is a main barrier influencing rural health mental services consumers to use the mental health services in rural areas. The lack of family or peer support, including limited provision of emotional,

financial, and practical assistance to individuals dealing with mental illness, has discouraged people from seeking mental health services [51, 58, 63]. Hull and colleagues further illustrated those farmers in rural and remote areas preferred seeking help from family and friends instead of professional healthcare services. This could be a primary factor influencing people in rural areas from seeking mental health services [39].

Barriers under the patient level

The Patient Level in the Socio-ecological Resilience Framework focuses on the individual factors influencing a person's mental health and ability to access and utilise mental health services. These barriers stem from the patient's attitudes, understanding, and personal experiences with mental health. Several key barriers at this level include attitude toward mental health services (22 articles), patient understanding of mental illness (13 articles), and quality of life (2 articles).

1. ***Attitude for mental health services*** It has been found in these studies that negative perceptions of mental health services, compounded by stigma and mistrust, reduce the likelihood of individuals in rural areas seeking timely care. These negative attitudes are often shaped by cultural beliefs and their negative experiences of mental health services [35, 39–46, 48–53, 56, 57, 59, 61, 62, 64, 65].
2. ***Patient understanding of mental illness*** The present review found that patient understanding of mental illness, such as lower depression literacy, was a significant barrier to mental health service utilisation, with many failing to recognise symptoms as a mental illness in rural areas [41, 49, 52, 53, 55, 57, 58, 60, 62–64, 69]. Patients were found to fail to recognise their psychiatric symptoms or misinterpret them as stress or temporary emotional issues, leading to delayed treatment.
3. ***Quality of life*** Quality of life was identified as a significant barrier at the patient level [58, 61]. Individuals in rural areas often reported lower quality of life due to ongoing mental health issues, which impacted their ability to engage in daily activities, work, or social interactions, further deterring them from seeking mental health services [58, 61].

Discussion

This scoping review identified barriers to accessing mental health services in rural areas from the perspective of a Socio-ecological Resilience Framework. The framework reveals four interconnected and interacting levels: the system/policy, the social/community, the family and peers, and the individual, that interact to affect the accessibility, quality, and effectiveness of mental health services.

Rather than merely cataloguing obstacles, this review interprets these barriers as points of potential adaptation and system learning. Across the 30 studies reviewed (2007–2024), the research focus and thematic direction have evolved considerably. Early research primarily documented structural and workforce deficiencies. Telemedicine has been shown to alleviate geographical barriers, improve patient satisfaction, reduce healthcare costs, support workforce training and retention, and maintain service continuity during emergencies such as pandemics [70–74]. Community-based service models, such as community emergency care and nurse-led integrated primary care, enhance sustainability and adaptability through localization, intersectoral collaboration, and ongoing professional training [75–77]. These are adaptive efforts made to address service gaps identified in previous work. This evolution marks a conceptual shift consistent with the Socio-ecological Resilience Framework, moving from describing barriers to exploring adaptive capacities and context-specific solutions within rural and remote mental health systems.

At the system/policy level, persistent resource scarcity and workforce shortages continue to constrain mental-health service delivery [35, 39–50, 52–65, 68, 69, 78–80]. In high-income countries such as Australia, initiatives like the Better Access Scheme have improved rural service continuity by supporting telehealth expansion and workforce incentives [46]. In contrast, low- and middle-income countries (LMICs) such as Liberia [69] and Malawi [65] demonstrate that low-cost, community-driven and Non-Governmental Organization (NGO)-supported programs can compensate for weak formal systems by leveraging existing community and faith networks. These findings suggest that investing in local human resources, culturally adapted workforce training, and digital connectivity are key resilience strategies applicable across diverse economic settings.

At the community level, geographic isolation interacts with cultural norms and stigma to restrict help-seeking [42, 47, 51, 52, 64, 68]. In Indigenous and culturally diverse communities, mental illness may be understood through social or spiritual frameworks rather than biomedical ones [42, 47, 48, 52, 64]. Evidence from Australia, Mexico, and South Africa shows that involving local leaders and elders in awareness and referral programs increases acceptance of formal care [39, 42, 43, 60, 64]. Hence, culturally congruent interventions co-designed with local communities are essential to strengthen equity.

A lack of peer and family support can considerably delay mental health treatment in rural areas, where close-knit relationships often play an essential role in daily life. In these communities, individuals who struggle with mental health issues may not seek help on their own, relying instead on encouragement and support from family members or friends. When this support is missing, individuals are less likely to prioritise their mental health and may delay seeking help.

Earlier research often portrayed family as a source of stigma or discouragement, whereas later studies increasingly recognized family and peer networks as potential facilitators of resilience [22, 81, 82]. Programs promoting family mental health literacy and peer support initiatives have emerged as crucial strategies to strengthen community resilience. These evolving perspectives align with the shift in research focus toward positive, capacity-building approaches rather than deficit-based interpretations of family dynamics.

Attitudes toward mental health services in rural areas are the main barriers that studies mentioned at the patient level [35, 39–46, 48–53, 56, 57, 59, 61, 62, 64, 65]. Many individuals are reluctant to seek help due to their personal beliefs about mental health.

Recent literature also highlights improvements in mental health literacy and self-recognition of symptoms, reflecting gradual progress over the past two decades [80, 81]. The integration of online educational campaigns and tele-counselling has increased awareness, particularly among younger rural residents. However, disparities persist among older adults and populations with limited digital access. These findings demonstrate that while progress has been made, addressing inequality in digital literacy and access remains a key component of resilience at the individual level.

While the Socio-ecological Resilience Framework effectively explains the interaction among system, community, family, and individual factors, its application requires contextual sensitivity. In high-income countries such as Australia, Canada, and the United States, the framework aligns with existing community-based and policy-supported structures that foster resilience through decentralised service delivery and telehealth. In contrast, in low- and middle-income countries such as India, Vietnam, Liberia, and Malawi, cultural norms and spiritual beliefs often shape the understanding of mental illness. In these contexts, resilience extends beyond formal health systems and is embedded in informal networks—families, religious leaders, and community elders—that serve as primary support systems [67]. Therefore, contextualising the socio-ecological resilience framework to incorporate cultural beliefs, local coping mechanisms, and Indigenous practices is essential for effective mental health interventions in rural and remote settings [26–30, 83].

The temporal analysis from 2007 to 2024 indicates that rural mental health research has gradually shifted from identifying barriers toward building resilience. Earlier studies largely documented systemic shortages and attitudinal stigma [48, 59], while recent work emphasizes innovation, cultural inclusivity, and adaptation [46]. This evolution mirrors the socio-ecological resilience framework's core principles—adaptation, recovery, and growth amid adversity [26]. The successful application of the socio-ecological resilience framework, however, depends heavily on cultural and contextual fit. In Australia, resilience may stem from policy-driven telehealth and workforce incentives [84], whereas in low-income regions it may emerge through community solidarity, NGO engagement, and traditional belief systems [25, 67, 80, 82].

Building on these insights, several practical strategies can be derived to enhance the resilience of rural and remote mental health systems.

At the system/policy level, infrastructure investment, development strategies to allocate resources better and enhanced communication support systems, such as reliable electricity and mobile networks for referrals, are needed to mitigate the resource limitation. In addition, programs should be implemented to attract and retain mental health professionals in rural areas. Giving priority to medical and health science students who grew up in rural areas, improving rural retention rates [85, 86]. Supporting current rural healthcare providers to expand their skills or enhance their qualifications is one way to address the workforce shortage [84]. Enhancing personal connections and strong links with local communities [87], belonging to rural societies, and increasing high-quality and diverse activities to young people might retain the rural health workforce. Furthermore, exploring options to reduce the cost of mental health services for rural residents, such as through government subsidies or expanded insurance coverage, expanding telehealth services to provide rural patients with access to specialised mental health professionals, potentially leveraging technology to overcome geographical barriers.

At the social/community level, working with local communities to reduce the stigma and discrimination associated with mental health issues could include educational campaigns, community support groups, and the involvement of community leaders in mental health advocacy. Providing training for mental health professionals to better understand and address the cultural diversity and beliefs within rural communities, ensuring services are culturally appropriate and accessible.

At the family level, developing and promoting programs that encourage family and peer support for

individuals with mental health issues, recognising the importance of these relationships in rural communities, and at patient level, increasing mental health literacy in rural areas through education and awareness campaigns, helping to dispel myths and misconceptions about mental health and the benefits of seeking help are needed [81]. In addition, several studies have reported that awareness of mental health problems and confidence in using services are non-spatial facilitators of access to and use of mental health services [67, 88, 89].

Strengths, limitations, and recommendations

Strengths

This scoping review uses the Socio-ecological Resilience Framework, providing a comprehensive and structured approach to evaluate multilevel barriers affecting rural and remote mental health services. By examining factors across system/policy, social/community, family, and patient levels, the framework enables a nuanced understanding of how these dimensions interact. Focusing on resilience as a positive concept adds further value by identifying protective mechanisms that promote adaptation and recovery within individuals, families, and communities.

Additionally, the inclusion of studies spanning nearly two decades (2007–2024) strengthens the review's contribution by capturing evolving evidence from barrier-focused to resilience- and innovation-oriented approaches. This comprehensive perspective not only captures evolving trends but also informs policy interventions and practical strategies for improving rural mental health services.

Limitations

This review is limited to English-language studies published between 2007 and 2024 and did not include search terms specific to certain population subgroups, such as people with disabilities or LGBTIQ + communities, who are known to face distinct barriers in rural areas. As a result, some relevant evidence may have been missed.

Furthermore, the included studies primarily represent countries such as Australia, the USA, Vietnam, Canada, South Africa, India, Liberia, Mexico, Malawi, and Cambodia. Therefore, the findings may not fully reflect the global diversity of rural mental health systems.

Although this review examined contextual differences across countries, finer cultural nuances within subregions—especially in low- and middle-income countries—were not always captured due to limited available data. This highlights the need for more culturally grounded, region-specific studies to better understand resilience and service delivery in diverse settings.

Conclusion

This scoping review highlights the main barriers to seeking help from mental health services in rural or remote areas, organized by system/policy, community, family, and patient levels. Over the past 18 years, the research trajectory has evolved from identifying structural barriers toward embracing adaptive, resilience-based, and culturally informed solutions. The growing use of telehealth [80], community-driven initiatives [82], and culturally tailored care models [25, 67] reflects the dynamic nature of resilience in rural contexts. Future research should continue exploring how socio-ecological resilience frameworks can be refined and localized to strengthen mental health service resilience across diverse rural and remote populations.

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s13033-026-00694-0.

Supplementary Material 1.

Acknowledgements
Not applicable.

Author contributions
JS conceptualised study framework, supervised study, provided guidance when consensus could not be reached, revised and edited manuscript. YJ developed the search strategy, conducted the database searches, performed data extraction, and drafted the manuscript. YJ and KL independently screened all articles and resolved discrepancies through discussion. KL contributed to the study selection process and reviewed the manuscript. HD and NB reviewed the study and manuscript. All authors read and approved the final manuscript.

Funding
Not applicable.

Data availability
Not applicable.

Declarations

Ethics approval and consent to participate
Not applicable.

Consent for publication
Not applicable.

Human ethics and consent to participate declaration
Not applicable.

Competing interests
The authors declare no competing interests.

Received: 30 April 2025 / Accepted: 6 January 2026
Published online: 19 January 2026

References

1. Brannen C, Johnson-Emberly D. Rural experiences of stress. View Here: Perspective North Rural Psychol. 2006;1(2):4.

2. Romanow RJ, Marchildon GP. Psychological services and the future of health care in Canada. Can Psychol. 2003;44(4):283.
3. Health, Alo. Welfare. Rural, regional and remote health: indicators of health. 2005.
4. Dixon J, Welch N. Researching the rural–metropolitan health differential using the 'social determinants of health'. Aust J Rural Health. 2000;8(5):254–60.
5. Hartley D. Rural health disparities, population health, and rural culture. Am J Public Health. 2004;94(10):1675–8.
6. Hemphill E, Dunn S, Barich H, Infante R. Recruitment and retention of rural general practitioners: a marketing approach reveals new possibilities. Aust J Rural Health. 2007;15(6):360–7.
7. Humphreys JS, Jones JA, Jones MP, Mara PR. Workforce retention in rural and remote Australia: determining the factors that influence length of practice. Med J Aust. 2002;176(10):472–6.
8. Jian L. Economic costs of serious illness in rural Southwest China: household coping strategies and health policy implications. Hum Organ. 2008;67(2):151–63.
9. Lagacé C, Desmeules M, Pong RW, Heng D. Non-communicable disease and injury-related mortality in rural and urban places of residence: a comparison between Canada and Australia. Can J Public Health. 2007;98:S62–9.
10. Liaw S, Kilpatrick S. A textbook of Australian rural health. University Of Tasmania; 2008.
11. Mitura V, Bollman R. The health of rural Canadians: A rural-urban comparison of health indicators, Rural and Small Town Canada Analysis Bulletin 4 (6). Statistics Canada. 2003.
12. Ranmuthugala G, Humphreys J, Solarsh B, Walters L, Worley P, Wakerman J, et al. Where is the evidence that rural exposure increases uptake of rural medical practice? Aust J Rural Health. 2007;15(5):285–8.
13. Serneels P, Lindelow M, Montalvo JG, Barr A. For public service or money: understanding geographical imbalances in the health workforce. Health Policy Plann. 2007;22(3):128–38.
14. Sibley LM, Weiner JP. An evaluation of access to health care services along the rural-urban continuum in Canada. BMC Health Serv Res. 2011;11:1–11.
15. Smith KB, Humphreys JS, Wilson MG. Addressing the health disadvantage of rural populations: how does epidemiological evidence inform rural health policies and research? Aust J Rural Health. 2008;16(2):56–66.
16. Gale JA, Deprez RD. A public health approach to the challenges of rural mental health service integration. 2003.
17. Roufeil L, Lipzker A. Psychology services in rural and remote Australia. InPsych: Bull Australian Psychol Soc Ltd. 2007;29(5):8–11.
18. DeLeon PH, Wakefield M, Hagglund KJ. The behavioral health care needs of rural communities. 2003.
19. Harowski K, Turner AL, LeVine E, Schank JA, Leichter J. From our community to yours: rural best perspectives on psychology practice, training, and advocacy. Prof Psychol Res Pract. 2006;37(2):158.
20. Jameson JP, Blank MB. The role of clinical psychology in rural mental health services: defining problems and developing solutions. Clin Psychol Sci Pract. 2007;14(3):283.
21. Schank J, Skovholt T. Ethical practice in small communities: Challenges and rewards for psychologists. American Psychological Association; 2006.
22. Bartlett H, Travers C, Cartwright C, Smith N. Mental health literacy in rural Queensland: results of a community survey. Aust N Z J Psychiatry. 2006;40(9):783–9.
23. Findlay R, Sheehan M. Utilisation of mental health services in rural and remote communities. J Rural Community Psychol. E7. 2004;1.
24. Barbopoulos A, Clark JM. Practising psychology in rural settings: issues and guidelines. Can Psychol. 2003;44(4):410.
25. Malone JL. Challenges and rewards: the role of psychologists in rural and remote areas. In: Carey TA, Gullifer J, editors. Handbook of rural, remote, and very remote mental health. Singapore: Springer Singapore. 2021;395–415.
26. Southwick SM, Bonanno GA, Masten AS, Panter-Brick C, Yehuda R. Resilience definitions, theory, and challenges: interdisciplinary perspectives. European journal of psychotraumatology. 2014 Dec 1;5(1):25338.
27. Stokols D, Lejano R, Hipp J. Enhancing the resilience of human–environment systems: a social ecological perspective. Ecol Soc. 2013;18:7.
28. Ungar M, Ghazinour M, Richter J. Annual research review: what is resilience within the social ecology of human development? J Child Psychol Psychiatry Allied Discip. 2013;54(4):348–66.
29. Lin K, M KAH, Thapa S, Allan J, Buys N, Sun J. Relationship of parental caregiving and child labour with developmental problems and mental health in children in low-to-middle-income countries using the socioecological resilience model. BMC Public Health. 2025;25(1):2323.
30. Henderson DX, DeCuir-Gunby J, Gill V. It really takes a village: a socio-ecological model of resilience for prevention among economically disadvantaged ethnic minority youth. J Prim Prev. 2016;37(5):469–85.
31. Bhandari S, Alonge O. Measuring the resilience of health systems in low-and middle-income countries: a focus on community resilience. Health research policy and systems. 2020 Jul 17;18(1):81.
32. Walsh F. Applying a family resilience framework in training, practice, and research: mastering the art of the possible. Fam Process. 2016;55(4):616–32.
33. Ellis L, Zurynski Y, Long J, Clay-Williams R, Ree E, Sarkies M, et al. Systems resilience in the implementation of a large-scale suicide prevention intervention: a qualitative study using a multilevel theoretical approach. BMC Health Serv Res. 2023. https://doi.org/10.1186/s12913-023-09769-x.
34. Steiner A, Farmer J. Contemporary interventions tackling complex issues: exploring pathways from online mental health forums to personal resilience. J Rural Stud. 2024. https://doi.org/10.1016/j.jrurstud.2024.103379.
35. Gonzalez-Chica DA, Hoon E, Stocks N. Multimorbidity, health-related quality of life and health service use among individuals with mental health problems: urban-rural differences in South Australia. Aust J Rural Health. 2020;28(2):110–9.
36. Arksey H, O'Malley L. Scoping studies: towards a methodological framework. Int J Soc Res Methodol. 2005;8(1):19–32.
37. Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. Ann Intern Med. 2018;169(7):467–73.
38. Munn Z, Peters MD, Stern C, Tufanaru C, McArthur A, Aromataris E. Systematic review or scoping review? Guidance for authors when choosing between a systematic or scoping review approach. BMC Med Res Methodol. 2018;18:1–7.
39. Hull MJ, Fennell KM, Vallury K, Jones M, Dollman J. A comparison of barriers to mental health support-seeking among farming and non-farming adults in rural South Australia. Aust J Rural Health. 2017;25(6):347–53.
40. Fennell KM, Hull M, Jones M, Dollman J. A comparison of barriers to accessing services for mental and physical health conditions in a sample of rural Australian adults. Rural Remote Health. 2018. https://doi.org/10.22605/RRH4155.
41. Happell B. Determining the effectiveness of mental health services from a consumer perspective: part 2: barriers to recovery and principles for evaluation. Int J Ment Health Nurs. 2008;17(2):123–30.
42. Thomas SL, Wakerman J, Humphreys JS. Ensuring equity of access to primary health care in rural and remote Australia - what core services should be locally available? Int J Equity Health. 2015;14:1–8.
43. Perkins D, Fuller J, Kelly BJ, Lewin TJ, Fitzgerald M, Coleman C, et al. Factors associated with reported service use for mental health problems by residents of rural and remote communities: cross-sectional findings from a baseline survey. BMC Health Serv Res. 2013;13(1):157.
44. Batterham PJ, Kazan D, Banfield M, Brown K. Differences in mental health service use between urban and rural areas of Australia. Aust Psychol. 2020;55(4):327–35.
45. Knight BG, Winterbotham S. Rural and urban older adults' perceptions of mental health services accessibility. Aging Ment Health. 2020;24(6):978–84.
46. Dolja-Gore X, Loxton DJ, D'Este CA, Byles JE. Mental health service use: is there a difference between rural and non-rural women in service uptake? Aust J Rural Health. 2014;22(3):92–100.
47. Gardiner FW, de Graaff B, Bishop L, Campbell JA, Mealing S, Coleman M. Mental health crises in rural and remote Australia: an assessment of direct medical costs of air medical retrievals and the implications for the societal burden. Air Med J. 2020;39(5):343–50.
48. Judd F, Jackson H, Komiti A, Murray G, Fraser C. Service utilisation by rural residents with mental health problems. Australas Psychiatry. 2007;15(3):185–90.
49. Muir-Cochrane E, O'Kane D, Barkway P, Oster C, Fuller J. Service provision for older people with mental health problems in a rural area of Australia. Aging Ment Health. 2014;18(6):759–66.
50. Dolja-Gore X, Depczynski J, Byles J, Loxton D. Mental health service use and cost by Australian women in metropolitan and rural areas. Aust J Rural Health. 2024;32(1):162–78.
51. Haynes TF, Cheney AM, Sullivan JG, Bryant K, Curran GM, Olson M, et al. Addressing mental health needs: perspectives of African Americans living in the rural South. Psychiatr Serv. 2017;68(6):573–8.
52. Deen TL, Bridges AJ. Depression literacy: rates and relation to perceived need and mental health service utilization in a rural American sample. Rural Remote Health. 2011;11(4):1–13.
53. Pass LE, Kennelty K, Carter BL. Self-identified barriers to rural mental health services in Iowa by older adults with multiple comorbidities: qualitative

interview study. BMJ Open. 2019. https://doi.org/10.1136/bmjopen-2019-029976.
54. Chen Z, Roy K, Khushalani JS, Puddy RW. Trend in rural-urban disparities in access to outpatient mental health services among US adults aged 18–64 with employer-sponsored insurance: 2005–2018. J Rural Health. 2022;38(4):788–94.
55. Deen TL, Bridges AJ, McGahan TC, Andrews Iii AR. Cognitive appraisals of specialty mental health services and their relation to mental health service utilization in the rural population. J Rural Health. 2012;28(2):142–51.
56. Petterson S, Williams IC, Hauenstein EJ, Rovnyak V, Merwin E. Race and ethnicity and rural mental health treatment. J Health Care Poor Underserved. 2009;20(3):662–77.
57. Hill SK, Cantrell P, Edwards J, Dalton W. Factors influencing mental health screening and treatment among women in a rural South central Appalachian primary care clinic. J Rural Health. 2016;32(1):82–91.
58. Bocker E, Glasser M, Nielsen K, Weidenbacher-Hoper V. Rural older adults' mental health: status and challenges in care delivery. Rural Remote Health. 2012;12(4):1–13.
59. Ryan-Nicholls KD, Haggarty JM. Collaborative mental health care in rural and isolated Canada: stakeholder feedback. J Psychosoc Nurs Ment Health Serv. 2007;45(12):37–45.
60. Benjamin F, Vickerman-Delport SA, Roman NV. Mental health care services in rural South Africa: a human capabilities approach. Soc Work Ment Health. 2021;19(5):365–80.
61. Van NHN, Thi Khanh Huyen N, Hue MT, Luong NT, Quoc Thanh P, Duc DM, et al. Perceived barriers to mental health services among the elderly in the rural of vietnam: A cross sectional survey in 2019. Health Serv Insights. 2021;14:1–10.
62. Giang KB, Dzung TV, Kullgren G, Allebeck P. Prevalence of mental distress and use of health services in a rural district in Vietnam. Glob Health Action. 2010. https://doi.org/10.3402/gha.v3i0.2025.
63. Roberts T, Shrivastava R, Koschorke M, Patel V, Shidhaye R, Rathod SD. Is there a medicine for these tensions?" Barriers to treatment-seeking for depressive symptoms in rural India: a qualitative study. Soc Sci Med. 2020;246:112741.
64. Esponda GM, Larrieta J, Hartman S, Cuevas FR, Cohen A, Kakuma R. What factors influence engagement with primary mental health care services? A qualitative study of service user perspectives in rural communities of Mexico. SSM Ment Health. 2022. https://doi.org/10.1016/j.ssmmh.2022.100125.
65. Chikasema B, Hunt X, Sorsdahl K, Tomlinson M. Rural-urban variation in user satisfaction with outpatient mental health services in Southern malawi: a cross-sectional survey. J Mental Health. 2021;30(2):224–31.
66. Organization WH. Country Classification [Available from: https://www.who.int/standards/classifications
67. Isaacs AN, Maybery D, Gruis H. Mental health services for aboriginal men: mismatches and solutions. Int J Ment Health Nurs. 2012;21(5):400–8.
68. Olofsson S, Sebastian MS, Jegannathan B. Mental health in primary health care in a rural district of cambodia: a situational analysis. Int J Mental Health Syst. 2018;12:1. N.PAG.
69. Gwaikolo WS, Kohrt BA, Cooper JL. Health system preparedness for integration of mental health services in rural Liberia. BMC Health Serv Res. 2017;17:1–10.
70. O'Sullivan B, Leader J, Couch D, Purnell J. Rural pandemic preparedness: the Risk, resilience and response required of primary healthcare. Risk Manage Healthc Policy. 2020;13:1187–94.
71. Bradford N, Caffery L, Smith A. 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 4:4268.
72. Totten A, Womack D, Griffin J, McDonagh M, Davis-O'Reilly C, Blazina I, et al. Telehealth-guided provider-to-provider communication to improve rural health: A systematic review. J Telemed Telecare. 2022;30:1209–29.
73. Butzner M, Cuffee Y. Telehealth interventions and outcomes across rural communities in the United States: narrative review. Journal of medical Internet research. 2021 Aug 26;23(8):e29575.
74. Kolluri S, Stead T, Mangal R, Coffee R, Littell J, Ganti L. Telehealth in response to the rural health disparity. Health Psychol Res. 2022;10 3:37445.
75. Ramanadhan S, Ganapathy K, Nukala L, Rajagopalan S, Camillus J. A model for sustainable, partnership-based telehealth services in rural India: an early process evaluation from Tuver village, Gujarat. PLoS One. 2022. https://doi.org/10.1371/journal.pone.0261907.
76. Amin A, Dutta M, Mohan SB, Mohan P. Pathways to enable primary healthcare nurses in providing comprehensive primary healthcare to rural, tribal communities in Rajasthan, India. Front Public Health. 2020. https://doi.org/10.3389/fpubh.2020.583821.
77. Brady L, Gilson L, George A, De Vries S, Hartley S. A community-based ambulance model: lessons for emergency medical services and everyday health systems resilience from South Africa. Health Policy Plann. 2024;39:956–69.
78. Penchansky R, Thomas JW. The concept of access: definition and relationship to consumer satisfaction. Med Care. 1981;19(2):127–40.
79. Khan AA. An integrated approach to measuring potential spatial access to health care services. Socio-econ Plann Sci. 1992;26(4):275–87.
80. Newman L, Bidargaddi N, Schrader G. Service providers' experiences of using a telehealth network 12 months after digitisation of a large Australian rural mental health service. Int J Med Inform. 2016;94:8–20.
81. Jorm AF. Mental health literacy: empowering the community to take action for better mental health. Am Psychol. 2012;67(3):231.
82. Kavanagh BE, Corney KB, Beks H, Williams LJ, Quirk SE, Versace VL. A scoping review of the barriers and facilitators to accessing and utilising mental health services across regional, rural, and remote Australia. BMC Health Serv Res. 2023. https://doi.org/10.1186/s12913-023-10034-4.
83. Cheesmond NE, Davies K, Inder KJ. Exploring the role of rurality and rural identity in mental health help-seeking behavior: a systematic qualitative review. J Rural Ment Health. 2019;43(1):45.
84. Russell D, Mathew S, Fitts M, Liddle Z, Murakami-Gold L, Campbell N, et al. Interventions for health workforce retention in rural and remote areas: a systematic review. Hum Resour Health. 2021;19(1):103.
85. Suen J, Attrill S, Thomas JM, Smale M, Delaney CL, Miller MD. Effect of student-led health interventions on patient outcomes for those with cardiovascular disease or cardiovascular disease risk factors: a systematic review. BMC Cardiovasc Disord. 2020;20:1–10.
86. Atuyambe LM, Baingana RK, Kibira SP, Katahoire A, Okello E, Mafigiri DK, et al. Undergraduate students' contributions to health service delivery through community-based education: a qualitative study by the MESAU Consortium in Uganda. BMC Med Educ. 2016;16:1–11.
87. Cosgrave C, Hussain R, Maple M. Retention challenge facing A ustralia's rural community mental health services: service managers' perspectives. Aust J Rural Health. 2015;23(5):272–6.
88. Dawson S, Gerace A, Muir-Cochrane E, O'Kane D, Henderson J, Lawn S, et al. Accessing mental health services for older people in rural South Australia. Australian Nurs Midwifery J. 2016;23(7):50.
89. Henderson J, Dawson S, Fuller J, O'Kane D, Gerace A, Oster C, et al. Regional responses to the challenge of delivering integrated care to older people with mental health problems in rural Australia. Aging Ment Health. 2018;22(8):1031–7.

Publisher's note