



An Investigation into Rural Access to Medical Care in the US and Taiwan

Jie-Yun Julie Chien

Abstract

Taiwan and the United States both struggle to provide equitable, accessible care for citizens living within rural communities. This disparity creates unequal access to care in rural regions and contributes to varying health outcomes between urban and rural populations. This paper compares the strengths and weaknesses of each nation's healthcare system with an emphasis on healthcare in rural regions. Through a literature review analyzing the organization, delivery, funding, resource shortages, and key rural healthcare programs of the two healthcare systems, this paper examines how the two nations address rural healthcare inequalities and proposes an improved model that combines their most effective approaches. Sources were primarily drawn from online databases and government healthcare agencies, with most published from 2015 to the present. However, older sources were also included when relevant. In particular, both countries face significant challenges in healthcare access, physician shortages, and limited access to specialists. However, Taiwan excels in coordinated rural outreach programs and healthcare coverage, while the US benefits from advanced medical innovation in providing quality healthcare. Ultimately, although no system is perfect, improving rural healthcare requires balancing accessibility, quality, and long-term financial sustainability.

An Investigation into Rural Access to Medical Care in the US and Taiwan

In Taiwan, around 15% of citizens live in rural areas (Worldometer, n.d.), and 10.9% of the rural community remains medically underserved (Taipei Times, 2025). Similarly, in the US, 20% (one in five) of its citizens reside in rural communities (Gunja et al., 2026), and yet 80% of the rural US is still medically underserved (NIHCM Foundation, 2023). However, these figures are not directly comparable because the two countries use different measures to define medical underservice, and data on rural healthcare in the US is more difficult to assess consistently given its much larger population. Comparing these two countries specifically is illuminating because they provide an unusually useful comparison, offering insight into how the approach to rural healthcare disparities differs between a single-payer, universal coverage system and a system without universal coverage that operates across multiple systems. Despite having different systems, unequal access to healthcare still remains an issue directly impacting rural residents in both countries. This ongoing disparity illustrates the importance of examining how these two healthcare systems approach rural healthcare. The purpose of this paper is to compare the two healthcare systems and examine the strengths and weaknesses of each health system, specifically in rural settings. The research question this paper investigates is: How do the healthcare systems of Taiwan and the United States differ in providing medical care in rural communities, and what can each system learn from the other?

Sources were pulled from a variety of online databases, including PubMed and Taiwan's National Health Insurance Administration, a government agency. Most sources were published from 2015 to the present, but some older sources were also included when they provided relevant background information on the two healthcare systems. Articles were considered relevant if they addressed rural healthcare access, resource distribution, healthcare delivery, or rural healthcare challenges and programs in Taiwan or the United States.

Overview of the Taiwan Healthcare System

Organization and Delivery

In 1995, Taiwan's healthcare system switched from separate occupation-based insurances to a universal, nationwide, single-payer, government-administered health insurance system called the National Health Insurance, or the NHI (Wu et al., 2010). Funding for the NHI relies on salaried workers' premiums, which are split between employees, employers, and the government (National Health Insurance Administration [NHIA], Ministry of Health and Welfare, 2022b).

The NHI provides comprehensive coverage for nearly the entire population. NHI covers around 99% of Taiwan's entire population, making it nearly universal (Wu et al., 2010). Individuals who remain uninsured primarily consist of residents living abroad for extended periods, who are not required to participate in the compulsory insurance program (Bureau of National Health Insurance, Department of Health, 2009). Through this nearly universal coverage, residents have access to a wide range of healthcare services. The NHI covers services including dental care, Western medicine, traditional Chinese medicine, preventive services, elderly home care, prescription drugs, and minor procedures. All covered services require a co-payment regardless of patient age, although individuals who are unable to afford

these payments are eligible to receive public assistance. Only cancer screening programs and annual physical checkups of people over the age of 65 are exceptions to the co-payment. Some services such as advanced health checkups or laser cosmetic procedures are not covered by the NHI. Instead, they are paid out-of-pocket or through supplemental private insurance (Wu et al., 2010).

Healthcare in Taiwan is delivered through both public and private hospitals and clinics that contract with the NHI (Wu et al., 2010). Public and private hospitals both contract with the NHI and receive reimbursement for covered medical services. The NHI reimbursement providers utilize standardized payment methods, such as fixed fee schedules for outpatient care and bundled payments for many inpatient services. Private hospitals mainly rely on NHI reimbursements (NHIA, Ministry of Health and Welfare, 2022c) and revenue from uninsured services (Commonwealth Fund, 2026), whereas public hospitals receive additional government funding (Xirasagar & Lin, 2004). Additionally, patients can choose any contracted healthcare provider and visit specialists without first obtaining a referral from a primary care physician. Patients who receive a referral from a clinic to a hospital pay a lower co-payment than those who visit hospitals directly. However, emergency care, traditional Chinese medicine, and dental care services are exempt from the higher co-payment for direct hospital visits. These features create a healthcare system that offers broad insurance coverage while providing patients with flexibility in accessing medical care (Wu et al., 2010).

Overall Strengths and Weaknesses

The NHI has several notable strengths, including low co-payments (Wang & Yaung, 2013), good accessibility, short waiting times, and a national health insurance data bank for planning, monitoring, and evaluating health services. Patients are mostly responsible for coordinating their own care, as they are the ones to decide which providers and specialists to visit (Tsuei, 2024). Referrals primarily reduce co-payments and facilitate access to larger hospitals rather than serving as a requirement for specialist care (NHIA, Ministry of Health and Welfare, 2022a).

However, the funding of the NHI is overly reliant on salaried workers' premiums. Taiwan's shrinking workforce and aging population increase financial pressures on the long-term sustainability of the healthcare system. Taiwan's healthcare system is also increasingly dependent on private financing and out-of-pocket payments, which raises concerns about maintaining equitable healthcare over time (Tsuei, 2024). Additionally, there is a variable quality of care and a weak gatekeeper role due to the lack of a referral system, which may cause the inefficient use of healthcare resources (Tsuei, 2024). Specialists usually manage condition-specific issues, requiring patients with multiple health conditions to seek care from different specialists. The limited coordination of care may in turn contribute to less unity in healthcare delivery. Although Taiwan achieves nearly universal insurance coverage, access to healthcare and resources remains unevenly distributed across Taiwan. Specifically, these disparities are seen most clearly in rural communities, where residents continue to face geographic barriers to obtaining high-quality healthcare (Wu et al., 2010).

Rural Healthcare in Taiwan

Current Challenges in Healthcare Access

Even with the universal coverage of the NHI, geographic barriers still remain an important determinant of healthcare access in Taiwan. Rural communities in Taiwan are located in mountainous, remote, or offshore areas, and they experience higher mortality rates than urban, metropolitan areas. Taiwan itself is split by a central mountain range, with 90% of its residents living on flat western terrain and the remaining 10% of the population living in the mountainous east. As a result, rural areas have low population densities, making the distribution of healthcare resources across the country more challenging. These geographic characteristics contribute to persistent disparities in the accessibility and availability of healthcare resources between rural and urban communities (Hsieh et al., 2023).

Distribution of Resources

Healthcare providers, more specifically primary care physicians and specialists, are not evenly distributed across rural Taiwan. For example, increased density of primary care physicians (PCPs) was associated with lower all-cause mortality and cardiovascular disease mortality (Hsieh et al., 2023). This implies that the distribution of primary care physicians may directly influence the outcomes of rural communities. Similarly, rural residents also experience reduced access to specialist care compared with urban populations. Specifically, 83.4% of rural patients with gastrointestinal diseases were treated by non-gastroenterologists, demonstrating the limited access to specialists in rural parts of Taiwan. Rural residents also had a lower accessibility of specialist care, especially for illnesses such as hepatitis, esophageal disorders, and gastroduodenal ulcers (Lin et al., 2013). These findings illustrate that the unequal distribution of both primary care physicians and specialists continues to drive healthcare disparities in rural Taiwan.

Strengths of Rural Healthcare

One major strength of Taiwan's rural healthcare system is that the NHI ensures that healthcare utilization is largely distributed according to the needs of patients rather than socioeconomic status. The Medical Care Network and Integrated Delivery System (IDS) further strengthen rural healthcare access by improving the coordination of healthcare services in underserved communities (Wang & Yaung, 2013). The implementation of NHI also led to a more equitable geographic distribution of physicians compared to before 1995, helping reduce urban-rural disparities. Combined with financial incentives, the NHI encouraged healthcare providers to practice in underserved areas (Yang et al., 2013).

Remaining Weaknesses

Geographic location increases the distance and travel times to hospitals and other healthcare facilities, as these specialty care areas are typically located in the cities. As a result, rural patients travel significantly farther to receive care, especially when needing treatment from high-performing hospitals that are usually located in the cities (Yu et al., 2016). Despite efforts to

improve healthcare access in rural communities, significant and concerning health disparities still persist between urban and resource-deprived areas (Hsieh et al., 2023).

Urban and higher-income patients were more likely to receive care at high-performing hospitals than rural and lower-income patients. These differences in access to high-quality providers contribute to disparities in healthcare outcomes between rural and urban populations. For example, rural patients had higher 30-day mortality rates after Coronary Artery Bypass Graft (CABG) surgery than urban patients. Hospital quality and longer travel distances only partially explained the differences in mortality between rural and urban patients, indicating that other factors also contribute to disparities in health outcomes (Yu et al., 2016).

Ultimately, although Taiwan utilizes universal healthcare insurance, it does not guarantee equal access to high-quality care. Geographic location and income continue to affect where patients receive care and their health outcomes. By improving rural patients' access to high-quality providers, healthcare disparities between urban and rural populations may be reduced (Yu et al., 2016).

Key Rural Healthcare Programs

In 1985, the government introduced the Medical Care Network to address the unequal distribution of healthcare resources and improve nationwide systemic coordination of medical facilities. This project divides Taiwan into 17 medical regions, with each region coordinated by a regional committee responsible for planning healthcare services and resource allocation. The initiative encouraged a balanced growth of healthcare facilities and personnel while improving the quality and accessibility of healthcare services. In addition, the Medical Care Network expanded its services in mountainous and offshore areas through mobile medical services, telemedicine, and incentive payments for physicians practicing in remote communities (Ho Chan, 2010). While the Medical Care Network focuses on a nationwide reorganization of healthcare resources and services, the Integrated Delivery System specifically targets the improvement of access in rural areas, where there were limited healthcare resources.

Implemented in 1999, the Integrated Delivery System (IDS) improved healthcare access for residents living in mountainous and offshore communities, which receive limited medical resources. The IDS provides healthcare by bringing medical personnel and services into rural communities rather than requiring patients to travel long distances for care. Hospitals participating in this project form teams with local public health centers and clinics to deliver coordinated healthcare services to rural communities. As of 2021, the IDS program included 26 hospitals (medical centers, regional hospitals, and district hospitals), serving residents across 29 mountain townships and 21 offshore island townships. For example, the Hualing Integrated Healthcare Station, established through the IDS, provides continuous healthcare to a remote mountain community, serving over 10,000 patients annually, up to 600 emergency visits, and achieving over 95% patient satisfaction (NHIA, Ministry of Health and Welfare, 2022d).

Although programs have already improved healthcare access in many rural communities, targeted interventions for disadvantaged areas remain essential to further reduce health disparities (Hsieh et al., 2023). For example, the IDS enabled rural residents to gain regular

access to primary care and dental care (Hsieh et al., 2023). By expanding telemedicine, teleconsultation, and specialist outreach clinics, rural residents' access to specialists can be further improved (Lin et al., 2013). Ultimately, these ongoing reforms demonstrate Taiwan's continued efforts to reduce geographic barriers to improve healthcare accessibility for rural communities.

Overview of the US Healthcare System

Organization and Delivery

Healthcare in the US is financed through a combination of private insurances, public insurance programs, and out-of-pocket payments by patients (Scott, 2016). However, these financial sources do not cover the entire US population, as some Americans remain uninsured. In terms of healthcare expenditures, approximately two-thirds are paid through private health insurance, while the remaining expenditures come from public programs such as Medicare and Medicaid, which account for nearly three-quarters of public expenditures for personal healthcare services. Medicare provides coverage primarily for elderly adults aged 65 years and older, as well as certain individuals with disabilities. Medicaid provides coverage for eligible low-income individuals and families, including people with disabilities and older adults with low income. The Indian Health Service (IHS) provides coverage for American Indians and Alaska Natives living on or near reservations, and the Veterans Affairs (VA) healthcare system provides services to eligible military veterans (Scott, 2016).

In the US, healthcare is delivered through both public and private healthcare providers. Most ambulatory care is provided through private physician practices of managed care organizations (Scott, 2016). Depending on the type of insurance plan, patients may need a referral from a primary care physician to a specialist in managed care systems. For example, Health Maintenance Organizations (HMOs) and Point-of-Service (POS) plans typically require referrals, while Preferred Provider Organizations (PPOs) and Exclusive Provider Organization (EPO) plans do not (U.S. Centers for Medicare & Medicaid Services, n.d.). Beyond traditional physician practices, the US also uses community-based healthcare organizations to expand access for underserved populations, such as those in low-income urban communities or rural populations (Scott, 2016). Community Health Centers provide affordable care to up to 52 million Americans regardless of their ability to pay. To reduce financial barriers to care, they work in partnership with the government, private sector, and various other healthcare payers (National Association of Community Health Centers, n.d.).

Overall Strengths and Weaknesses

Unlike Taiwan's relatively unified NHI, the US creates greater variation within the system itself and makes it challenging to generalize its overall strengths and weaknesses. The US healthcare system is supported by high levels of healthcare investment, making it a global leader in medical research, pharmaceutical development, and advanced medical technology (Gunja et al., 2026). These investments have led to the development of innovative treatments and specialized medical care. On a larger scale, the US spends more on healthcare than other high-income countries but also performs worse on measures including life expectancy,



preventable deaths, and access to care (Gunja et al., 2026). Additionally, the complexity of the US healthcare system and its financing creates many challenges for policymakers, employers, and consumers. Healthcare coverage and access are varied across the country. As a result, individuals who are uninsured or underinsured may experience reduced access to care (Scott, 2016). Overall, these issues illustrate the limitations of the US healthcare system in providing equitable care.

Rural Healthcare in the United States

Current Challenges in Healthcare Access

In the United States, rural areas are defined as areas that are not included within an urban area, which must contain at least 2,000 housing units or a population of at least 5,000 (US Census Bureau, 2024). These residents tend to be older, have higher poverty rates, and face greater barriers to healthcare access. Moreover, rural residents experience higher rates of the top five leading causes of death (heart disease, cancer, stroke, chronic respiratory disease, and unintentional injury) compared to urban residents (Centers for Disease Control and Prevention, 2024). Poorer health outcomes are amplified by persistent shortages of healthcare providers in rural communities, with only 10% of physicians practicing in rural areas. Physician shortages reduce access to both primary and specialty care. This shortage is extensive, with 43 million people living in rural areas lacking primary care health professionals (Horstman & Shah, 2025). Physician shortages contribute to healthcare disparities and poorer health outcomes in rural populations, emphasizing the need for targeted strategies to strengthen the rural healthcare workforce (Arredondo et al., 2023).

Distribution of Resources

Recruiting and retaining healthcare providers in underserved areas is difficult. In 2019, there were 1.6 times more primary care physicians per 10,000 people in urban U.S. counties than in rural counties (Arredondo et al., 2023). Although 81% of residents in rural counties had a usual source of care, only 22% of their providers were physicians (Kirby & Yabroff, 2020). Besides primary care, rural residents also have lower access to specialty healthcare services than urban residents across multiple medical specialties (Cyr et al., 2019), further limiting the availability of specialized care in rural communities. For example, rural residents experience reduced access to gastrointestinal services, with longer travel times and fewer gastrointestinal and hepatology visits compared with their urban counterparts. Rural populations also have lower rates of preventative and diagnostic services, including screening colonoscopies, and less access to specialized procedures such as upper endoscopy and ERCP (Bahirwani et al., 2025). Besides physician and specialist availability, rural communities also face difficulty accessing hospitals and other healthcare facilities. Financial instability is one of the primary factors contributing to rural hospital closures, and these closures have reduced access to healthcare services for many rural communities (Balakrishnan et al., 2025). These disparities in physician availability, specialist access, and hospital resources continue to reduce healthcare accessibility for rural communities in the United States.

Strengths of Rural Healthcare

A major strength of the US rural healthcare system is the implementation of critical access hospitals (CAHs) to help maintain access to essential hospital services within rural communities. These hospitals receive cost-based reimbursement through Medicare, which improves the financial viability of many rural hospitals (Jia et al., 2026). Through partnerships with community organizations, rural healthcare organizations in the US have also expanded care coordination models that address both healthcare and social needs, such as transportation, food, housing, and behavioral health. These partnerships allow rural healthcare organizations to address the various needs within their community. Rural care coordination relies on multidisciplinary teams and partnerships with local organizations to improve continuity of care, fostering a more connected approach to rural healthcare (Kapp et al., 2023).

Remaining Weaknesses

Despite numerous efforts to improve rural healthcare, rural communities in the US still face significant challenges in access to healthcare services. Rural hospital closures threaten residents' access to healthcare services, especially in communities that rely on a single local hospital (Balakrishnan et al., 2025). The primary driver of rural hospital closure is financial distress (Balakrishnan et al., 2025), which can further reduce healthcare access in rural communities. Additionally, rural physician shortages persist, even though numerous federal and state incentive programs have already been utilized, showing how recruiting and retaining physicians in rural communities still remains a significant challenge in the United States (Arredondo et al., 2023).

Key Rural Healthcare Programs

One key rural healthcare program in the US is the Rural Health Clinic (RHC) program. RHCs were established by the Rural Health Clinic Services Act of 1977 to improve access to primary care for rural and medically underserved populations. As of March 2026, there are 5,650 RHCs established around the US (Rural Health Information Hub, 2021), equivalent to approximately 1.65 RHCs per 100,000 people. To qualify as an RHC, clinics must be located in rural, medically underserved, or health professional shortage areas. RHCs have physician assistants (PAs), nurse practitioners (NPs), and certified nurse midwives (CNMs), who work alongside physicians to expand access to primary care. For funding, RHCs receive enhanced Medicare and Medicaid reimbursement. Over time, the number of RHCs has grown substantially since the program was first established, reflecting their role in expanding access to primary care within rural communities (Rural Health Information Hub, 2021).

Critical Access Hospitals (CAHs) are also geared towards improving the health of rural residents. As of July 2026, there are 1,388 CAHs across the US (Flex Monitoring Team, 2004), which is equivalent to around 0.40 CAHs per 100,000 people. CAHs were established under the Medicare Rural Hospital Flexibility Program to preserve access to hospital care for rural residents. CAHs receive their funding from cost-based Medicare reimbursement that is intended to improve their financial viability (Jia et al., 2026). However, changes in payer mix affect the profitability and long-term sustainability of Critical Access Hospitals (Jia et al., 2026), making them more financially vulnerable.

Synthesis

Shared Challenges

Despite fundamentally different healthcare systems, both Taiwan and the United States continue to experience persistent rural healthcare disparities. This further demonstrates that equal insurance coverage and healthcare programs alone do not guarantee equal access to high-quality care. While it is easy to compare the two systems, it is much harder to design a healthcare model that would integrate the strengths of both while avoiding their weaknesses. Both countries still face geographic barriers between urban and rural areas. Physician shortages also persist in rural communities despite targeted recruitment efforts, meaning that rural communities continue to have limited access to healthcare providers. Both systems still have reduced access to specialists compared with their urban populations. Lastly, rural populations in both countries also tend to be older and experience greater healthcare needs, increasing the demand for healthcare services.

Towards an Ideal Rural Healthcare Model: Combining Strengths from Both Systems

Taiwan's nearly universal healthcare coverage does not guarantee equal access to high-quality care in rural areas. Rural and lower-income patients are less likely to receive care at high-performing hospitals, and geographic location and income still influence where patients receive care, with direct effects on health outcomes. On the other hand, the US has varied healthcare coverage and access due to its multiple private and public insurance plans. Uninsured and underinsured patients can experience reduced access to care. Together, these differences show that neither system fully resolves rural healthcare disparities. Taiwan shows the value of universal coverage and coordinated rural programs, whereas the US emphasizes medical innovation and specialized care. Therefore, the improved model should combine Taiwan's accessibility and coordination with the US's healthcare innovation, while addressing geographic and workforce barriers.

In terms of healthcare delivery and organization, this model should adopt Taiwan's nationally coordinated approach to rural healthcare planning through regional healthcare networks that are similar to the Medical Care Network, as described in the Taiwan key rural healthcare programs section. By implementing medical outreach teams similar to Taiwan's Integrated Delivery System, this model can bring multidisciplinary healthcare teams directly into underserved communities. This would grant rural residents the ability to receive regular access to healthcare services, reducing the issue of having to travel long distances to receive care.

For healthcare innovation, the model would invest in US-style medical research, pharmaceutical development, and advanced healthcare technologies, building on the strengths identified previously in the US healthcare system. At the same time, the potential model would improve the rural healthcare workforce by expanding physician incentive programs (loan repayment, scholarships, rural residency programs) to recruit more rural healthcare professionals (Arredondo et al., 2023). These incentives would provide financial support and



training opportunities for physicians working in rural communities. This would allow rural residents to benefit from both high-quality care and greater availability of healthcare professionals, such as physician assistants, nurse practitioners, and certified nurse-midwives, rather than just physicians, as illustrated by the RHC program.

To improve one of the most significant issues in rural healthcare, the lack of access to healthcare in rural communities, the enhanced model would expand telemedicine, remote specialist consultation services, and mobile healthcare services, following strategies discussed in the Taiwan key rural healthcare programs section, in an attempt to reduce geographic barriers. Furthermore, the new system would provide additional support for rural residents by improving transportation support and implementing specialist outreach programs for rural residents to access specialized care within their communities, addressing the geographic barriers highlighted throughout this paper.

Ultimately, rather than adopting a single country's mechanism to develop a healthcare system, policymakers should aim to integrate the strengths of both systems to strengthen rural healthcare accessibility, quality, and long-term sustainability.

Future Directions

The hypothetical model proposed previously is based on the combination of strategies identified from both Taiwan and the US. However, further research is needed to determine whether combining these approaches would actually improve rural access and health outcomes. This paper was limited by the availability of existing research on rural healthcare in Taiwan, as there was less research available on rural healthcare specifically compared with the US. In contrast, although more information was widely available on rural healthcare in the US, the large amount of information made it challenging to identify specific information needed for the comparison and the purpose of this paper, often requiring information to be gathered and synthesized from multiple sources. Some aspects of rural healthcare could not be directly compared because the two countries utilize different healthcare systems and measures for healthcare access. Information was also more limited for data on specific rural outcomes, making it hard to determine which approaches are more effective. Further research with more consistent and directly comparable data could help better evaluate the effectiveness of different rural healthcare protocols.

Future research should revolve around testing, collecting data, and improving strategies that can address healthcare disparities. Areas to explore may include telemedicine, specialist outreach programs, and more recent innovative technologies such as AI to reduce geographic barriers to healthcare access in rural communities. Healthcare systems should also continue investing in policies that recruit and retain healthcare professionals in underserved areas while constantly evaluating the effectiveness of these policies. Researchers should also encourage continued collaboration and exchange of knowledge between healthcare systems so that countries can adapt successful rural health strategies to their own unique needs.

Conclusion



Although both countries utilize very different healthcare systems, they continue to face significant challenges in providing equitable access to healthcare for their rural residents. Each system offers valuable strengths and lessons that can help lessen these disparities. No single healthcare system is perfect, as both Taiwan and the US exhibit their own unique strengths and weaknesses. Taiwan excels in healthcare accessibility and coordinated rural outreach, while the US emphasizes medical innovation and specialized care. Improving rural health requires balancing accessibility, quality, and long-term financial sustainability.

References

1. Arredondo, K., Touchett, H. N., Khan, S., Vincenti, M., & Watts, B. V. (2023). Current programs and incentives to overcome rural physician shortages in the United States: A narrative review. *Journal of General Internal Medicine*, 38(3), 916–922. <https://doi.org/10.1007/s11606-023-08122-6>
2. Bahirwani, J., Changela, M., Bharadwaj, H. R., & Dahiya, D. S. (2025). When geography dictates care: The rural gastroenterology challenge. *ACG Case Reports Journal*, 12(12), e01944. PubMed Central. <https://doi.org/10.14309/crj.0000000000001944>
3. Balakrishnan, K., Li, Z., Hinkle, H. E., Weidenbacher-Hoper, V. L., Reynolds, C., & Keese, A. O. (2025). Predictors of rural hospital closures in the United States: A systematic review and call for AI-driven early warning systems. *BMC Health Services Research*, 26, 86. <https://doi.org/10.1186/s12913-025-13847-7>
4. Bureau of National Health Insurance, Department of Health. (2009). *National health insurance in Taiwan* (pp. 1–70). Bureau of National Health Insurance. <https://media.nhi.gov.tw/md/dl-51789-4706dfa8e4a84565a445e7f35afda974-3.pdf>
5. Centers for Disease Control and Prevention. (2024, May 14). *About rural health*. Rural Health. <https://www.cdc.gov/rural-health/php/about/index.html>
6. Commonwealth Fund. (2026, May 1). *International health care system profiles: Taiwan*. <https://doi.org/10.26099/R631-C728>
7. Cyr, M. E., Etchin, A. G., Guthrie, B. J., & Benneyan, J. C. (2019). Access to specialty healthcare in urban versus rural US populations: A systematic literature review. *BMC Health Services Research*, 19, Article 974. <https://doi.org/10.1186/s12913-019-4815-5>
8. Flex Monitoring Team. (2004). *Historical CAH Data*. Flexmonitoring.Org. <https://www.flexmonitoring.org/historical-cah-data-0>
9. Gunja, M. Z., Gumas, E. D., & Williams II, R. D. (2026). U.S. health care from a global perspective, 2026. *Commonwealth Fund*. <https://doi.org/10.26099/2egm-8b76>
10. Ho Chan, W. S. (2010). Taiwan's healthcare report 2010. *EPMA Journal*, 1(4), 563–585. <https://doi.org/10.1007/s13167-010-0056-8>
11. Horstman, C., & Shah, A. (2025). The state of rural primary care in the United States. *The Commonwealth Fund Website*. <https://doi.org/10.26099/03v3-h645>
12. Hsieh, C.-L., Chung, C.-Y., Chen, H.-Y., Shieh, S.-H., Hsieh, M.-S., & Hsieh, V. C.-R. (2023). Bridging geographical disparities across 368 townships with healthcare system and socioeconomic factors in Taiwan. *Scientific Reports*, 13(1), 15007. <https://doi.org/10.1038/s41598-023-42124-y>
13. Jia, Y., Li, Y., Cai, X., & Enumah, S. J. (2026). Payer mix shifts and profitability at critical access hospitals, 2011 to 2023. *Health Affairs Scholar*, 4(4), qxag083. <https://doi.org/10.1093/haschl/qxag083>
14. Kapp, J. M., Underwood, B., Ressel, K., & Quinn, K. (2023). Practice perspectives on care coordination in rural settings. *Professional Case Management*, 29(1), 4–12. <https://doi.org/10.1097/NCM.0000000000000679>
15. Kirby, J. B., & Yabroff, K. R. (2020). Rural–urban differences in access to primary care: Beyond the usual source of care provider. *American Journal of Preventive Medicine*, 58(1), 89–96. <https://doi.org/10.1016/j.amepre.2019.08.026>
16. Lin, Y.-H., Tseng, Y.-H., Chen, Y.-C., Lin, M.-H., Chou, L.-F., Chen, T.-J., & Hwang, S.-J. (2013). The rural - urban divide in ambulatory care of gastrointestinal diseases in Taiwan.

- BMC International Health and Human Rights*, 13, 15.
<https://doi.org/10.1186/1472-698x-13-15>
17. National Association of Community Health Centers. (n.d.). *What is a Community Health Center?* Retrieved August 30, 2026, from
<https://www.nachc.org/community-health-centers/what-is-a-health-center/>
 18. National Health Insurance Administration, Ministry of Health and Welfare. (2022a, June 8). *Referral services*. <https://www.nhi.gov.tw/en/cp-31-68c21-17-2.html>
 19. National Health Insurance Administration, Ministry of Health and Welfare. (2022b, June 9). *How premiums are calculated*. <https://www.nhi.gov.tw/en/cp-1112-0dec1-201-2.html>
 20. National Health Insurance Administration, Ministry of Health and Welfare. (2022c, August 15). *The NHI payment system*. <https://www.nhi.gov.tw/en/cp-1057-890fd-123-2.html>
 21. National Health Insurance Administration, Ministry of Health and Welfare. (2022d, August 19). *NHI for rural health care- IDS 20th anniversary conference in Taoyuan Fuxing District*. <https://www.nhi.gov.tw/en/cp-1019-ad966-8-2.html>
 22. NIHCM Foundation. (2023, October 25). *Rural health: Addressing barriers to care*. Nihcm. <https://nihcm.org/publications/rural-health-addressing-barriers-to-care>
 23. Rural Health Information Hub. (2021, April 22). *Rural health clinics (RHCs) introduction - rural health information hub*. Rural Health Information Hub.
<https://www.ruralhealthinfo.org/topics/rural-health-clinics>
 24. Scott, D. (2016). United States health care system: A pharmacy perspective. *The Canadian Journal of Hospital Pharmacy*, 69(4), 306–315.
<https://www.cjhp-online.ca/index.php/cjhp/article/view/1585/2393>
 25. Taipei Times. (2025, September 28). *Notes from Central Taiwan: The urban-rural divide in Taiwan's medical coverage*.
<https://www.taipeitimes.com/News/feat/archives/2025/09/29/2003844590>
 26. Tsuei, Sian Hsiang-Te. (2024). Reflection on 30 years of Taiwanese national health insurance: Analysis of Taiwanese health system progress, challenges, and opportunities. *Journal of the Formosan Medical Association*, 123(Suppl 3), S180–S187.
<https://doi.org/10.1016/j.jfma.2024.07.030>
 27. US Census Bureau. (2024, December 16). *Urban and Rural*. The United States Census Bureau.
<https://www.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural.html>
 28. U.S. Centers for Medicare & Medicaid Services. (n.d.). *Health insurance plan & network types: HMOs, PPOs, and more*. HealthCare.Gov. Retrieved September 13, 2026, from
<https://www.healthcare.gov/choose-a-plan/plan-types/>
 29. Wang, S.-I., & Yaung, C.-L. (2013). Vertical equity of healthcare in Taiwan: Health services were distributed according to need. *International Journal for Equity in Health*, 12, 12. <https://doi.org/10.1186/1475-9276-12-12>
 30. Worldometer. (n.d.). *Taiwan demographics (population, age, sex, trends)*. Www.Worldometers.Info. Retrieved September 1, 2026, from
<https://www.worldometers.info/demographics/taiwan-demographics/>
 31. Wu, T.-Y., Majeed, A., & Kuo, K. N. (2010). An overview of the healthcare system in Taiwan. *London Journal of Primary Care*, 3(2), 115–119.
<https://doi.org/10.1080/17571472.2010.11493315>

-
32. Xirasagar, S., & Lin, H. C. (2004). Cost convergence between public and for-profit hospitals under prospective payment and high competition in Taiwan. *Health Services Research*, 39(6 Pt 2), 2101–2116. <https://doi.org/10.1111/j.1475-6773.2004.00334.x>
 33. Yang, C.-H., Huang, Y.-T. A., & Hsueh, Y.-S. A. (2013). Redistributive effects of the National Health Insurance on physicians in Taiwan: A natural experiment time series study. *International Journal for Equity in Health*, 12, 13. <https://doi.org/10.1186/1475-9276-12-13>
 34. Yu, T.-H., Chung, K.-P., Wei, C.-J., Chien, K.-L., & Hou, Y.-C. (2016). Do the preferences of healthcare provider selection vary among rural and urban patients with different income and cause different outcome? *PLOS ONE*, 11(4), e0152776. <https://doi.org/10.1371/journal.pone.0152776>