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Original Article

Barriers to Accessing Post-Stroke Rehabilitation in Chile: Sub-Analysis of an International Survey of Neurologists and Rehabilitation Professionals in Latin America

Alejandro Gonzalez-Aquines [a, *], Victor Navia-Gonzalez [b] and Michelle Casanova-Román [c, d]

[a] *School of Nursing, Public Health, and Healthcare Leadership, Faculty of Health and Social Care, University of Bradford, England.*
[b] *Facultad de Medicina Clínica Alemana, Universidad del Desarrollo, Chile.*
[c] *Servicio de Neurología y Neurocirugía, Hospital Clínico Universidad de Chile, Chile.*
[d] *Escuela de Fonoaudiología, Universidad Mayor, Chile.*

ABSTRACT

More than half of stroke survivors in Chile experience limitations in their activities of daily living. Although rehabilitation services are available for this condition, access remains a challenge for many patients. This study aimed to identify the main barriers to providing rehabilitation services in the country's public and private health sectors. A survey was conducted in 2023 to explore the rehabilitation services offered in Chile, with a total of 14 respondents from 21 hospitals. The mean age of the participants was 43.29 years (SD = 8.86), with a mean professional experience of 13.93 years (SD = 7.24). The results showed that the primary barriers to inpatient rehabilitation were the inadequate infrastructure in the public sector and the limited health coverage in the private sector. Regarding outpatient rehabilitation, the main barriers were the commuting distance to rehabilitation centers in the public sector and restricted health coverage in the private sector. In conclusion, the primary challenges in providing post-stroke rehabilitation services are linked to infrastructure and funding deficiencies. Health innovations, such as telemedicine, could be a valuable strategy to improve access. Furthermore, this research underscores the importance of exploring the barriers associated with inadequate health coverage and incorporating the perspectives of patients and caregivers into future studies.

Keywords:
Stroke; Rehabilitation; Health Services

Barreras para acceder a rehabilitación posterior a un ataque cerebrovascular en Chile: Sub-análisis de una encuesta internacional a neurólogos y profesionales de rehabilitación en Latinoamérica

RESUMEN

En Chile, más de la mitad de las personas que sobreviven a un ataque cerebrovascular (ACV) presentan limitaciones para realizar actividades de la vida diaria. Aunque existen servicios de rehabilitación disponibles para esta condición, el acceso efectivo a ellos continúa siendo un desafío para muchos pacientes. En este contexto, el objetivo de este estudio fue identificar las principales barreras para ofrecer servicios de rehabilitación en los sectores públicos y privados del país. Se aplicó una encuesta en 2023, la cual exploró los servicios de rehabilitación ofrecidos en Chile. Un total de 14 profesionales respondieron la encuesta, representando a 21 hospitales. La edad media de los participantes fue de 43,29 años (DE = 8,86), con una media de 13,93 años (DE = 7,24) de experiencia profesional. Los resultados mostraron que las principales barreras para la rehabilitación intrahospitalaria fueron la falta de infraestructura en el sector público y la falta de cobertura en el sector privado. En cuanto a la rehabilitación ambulatoria, las principales barreras reportadas fueron la distancia a los centros de rehabilitación en el sector público y la falta de cobertura en el sector privado. Se concluye que las principales dificultades para ofrecer servicios de rehabilitación post-ACV están relacionadas con deficiencias en infraestructura y financiamiento. El uso de innovaciones en salud, como la telemedicina, podría ser una estrategia útil para mejorar el acceso. Asimismo, se destaca la necesidad de profundizar en las barreras asociadas a la falta de cobertura, e incorporar las perspectivas de pacientes y cuidadores en investigaciones futuras.

Palabras clave:
Ataque Cerebrovascular; Rehabilitación; Servicios de Salud

**Corresponding Author: Alejandro Gonzalez-Aquines*
Email: a.gonzalezaquines3@bradford.ac.uk

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INTRODUCTION

Cerebrovascular accident (CVA), or stroke, is a highly relevant public health issue in Chile. In 2021, stroke was the third most frequent cause of death nationally, only surpassed by COVID-19 and heart attack (Institute for Health Metrics and Evaluation [IHME], 2024). According to a population study conducted by Lavados et al. (2021), the incidence of CVA in Chile is 121.7 cases per 100,000 inhabitants, with most being ischemic strokes (86.8 cases per 100,000 inhabitants).

It is estimated that over half of stroke survivors present with restrictions in mobility and activities of daily living, in addition to pain, depression, or anxiety, six months after the event. Twelve months after a stroke, more than two-thirds still exhibit limitations in the same areas (Lavados et al., 2021). Thus, post-stroke rehabilitation is crucial for recovery. International recommendations suggest initiating this process during the acute in-hospital phase and continuing after hospital discharge. The benefits of rehabilitation are widely recognized and include a reduction in mortality, an increase in functional independence, and an improvement in activities of daily living (Winstein et al., 2016).

Considering the high functional impact of CVA, the Chilean government has developed, over the past decades, multiple health programs and policies to improve access to post-stroke rehabilitation. In 2006, ischemic stroke was incorporated into the framework of *Garantías Explícitas en Salud* (GES, meaning "Explicit Health Guarantees") through GES 37 (which covers ischemic stroke) and GES 42 (covering brain hemorrhage from ruptured aneurysm). According to the access guarantee, both GES ensure access to treatment, including rehabilitation in providers with resolutive capacity (Superintendencia de Salud, 2024). Later, in 2014, *Plan de Acción Ataque Cerebrovascular* (Cerebrovascular Accident Action Plan) was published. This plan promotes early rehabilitation by interdisciplinary teams and proposes that 100% of patients in high and medium-complexity hospitals receive a treatment plan (Ministerio de Salud [MINSAL], 2014). Finally, six macroregions were established in 2022 to cover the specific needs of each region and optimize access to services and resources for post-stroke rehabilitation. (Red Nacional de ACV, 2022). It is expected that, through these policies, stroke patients will receive both inpatient and outpatient support.

Despite significant progress in health and stroke intervention policies in Chile, there are still barriers to rehabilitation in line with best clinical practices. Among these barriers, we can find the limited availability of qualified human resources (Red Nacional de ACV, 2022). Additionally, the services provided by the public sector, compared to the private sector, are unequal (Martins et al., 2021). Accordingly, this study aims to identify the main barriers to offering inpatient and outpatient post-stroke support in both sectors of the Chilean health system. The results presented here correspond to a subanalysis of an international survey developed by *Alianza Joven Latinoamericana contra el ACV* (ALATAC). This Latin American initiative seeks to promote research and improvement in stroke treatment (Rosales et al., 2024).

METHODOLOGY

This study was based on data collected in Chile from a survey conducted across 17 Latin American countries, between March and September 2023. The methods follow the STROBE guidelines for cross-sectional studies (STROBE, 2025).

Participants

For the international survey, the sample size was calculated based on an estimated population of 750 healthcare professionals working with stroke patients across Latin America, who could be reached through ALATAC's social media channels and local stroke societies. A 95% confidence level and a 5% margin of error were applied, resulting in a sample size of 255 participants. The final survey received 261 responses (Gonzalez-Aquines et al., 2024). The scientific committee decided to include responses from at least three cities per country in order to avoid overrepresentation of capital cities, where rehabilitation services tend to be more developed.

The inclusion criteria for data collection in Chile were: (1) professionals working in national hospitals or clinics, either in the public or private health sector, and (2) working with stroke patients. The sample could include doctors, nurses, and rehabilitation professionals. Chilean professionals working abroad were excluded. Since it is common for health staff to work both in public and private institutions (e.g., morning shift in a public center and afternoon shift in a private one), participants were allowed to provide information from up to two health centers.

To ensure adequate participant recruitment, leaders were appointed in each country. One of the co-authors of this study (VNG) served as the leader in Chile. At the same time, the corresponding author (AGA) maintained regular communication with VNG and provided updates on the number of cities

represented in the survey. When responses came from the same city, AGA indicated the need to recruit participants from other locations. The following sub-analysis reports findings from the 14 responses obtained in Chile.

Instrument

A survey was created to assess the status of services as well as barriers to accessing post-stroke rehabilitation. An international scientific committee was established to design the instrument, in collaboration with local leaders, ALATAC members, and researchers from the University of Bradford and the University of Leeds. The committee met three times to develop the survey.

The first step involved adapting a previous questionnaire on barriers to access mechanical thrombectomy for acute stroke (Gongora-Rivera et al., 2021) to the context of rehabilitation. This process required modifying the original survey questions to reflect rehabilitation-related issues in English. The scientific committee reviewed the questionnaire to ensure alignment with the study's objectives. The team repeated this process twice until reaching consensus. Subsequently, the English version of the survey was translated into Spanish by native speakers. A pilot test was then conducted to validate the questions and identify any errors or unclear items, involving five eligible respondents. Finally, their feedback was analyzed to ensure the questions accurately measured barriers to accessing post-stroke rehabilitation. Appendix 1 shows the final Spanish version of the survey.

The content of the survey was divided into three sections. The first section included questions on the status of post-stroke rehabilitation in the country, with multiple-choice items addressing the availability of stroke units and rehabilitation modalities (physical therapy, speech-language therapy, occupational therapy, and cognitive therapy) in public and private facilities, as well as in inpatient and outpatient settings. Barriers were also explored at the national level using a Likert scale addressing variables such as healthcare coverage, rehabilitation staff, awareness of the importance of rehabilitation, and infrastructure. The healthcare coverage variable referred to the inclusion of rehabilitation services in public or private insurance benefit packages, whereas the infrastructure variable referred to the facilities, buildings, and equipment necessary for post-stroke rehabilitation. In addition to the Likert items, the survey contained an open-ended question to allow participants to describe barriers not captured by the predefined options.

The second section explored the rehabilitation services available in the respondents' workplaces through multiple-choice questions. This section addressed hospital characteristics, such as bed capacity, types of rehabilitation services, and availability of mental health and psychiatric support. Given the clinical relevance of botulinum toxin for post-stroke spasticity management, the final section of the questionnaire specifically examined its availability and insurance coverage for stroke patients. The survey did not collect any personal data.

Procedures

The survey was distributed digitally via Microsoft Forms through ALATAC's social media channels and local stroke societies. No time limit was set for completing the survey. All data were stored in a folder accessible only to the principal investigator. The Ethics Committee of the University of Bradford reviewed the research proposal and exempted it from the requirement for informed consent.

Statistical Analysis

Participants' responses were submitted to descriptive analysis. Frequencies were reported as proportions, while numerical variables were presented as mean (± standard deviation) or median (interquartile range). The analysis began with information on the national status of post-stroke rehabilitation. Responses to Likert-scale questions were then analyzed according to the level of agreement (i.e., "Partially Agree" or "Totally Agree" versus "Partially Agree" or "Totally Disagree"), followed by an analysis at the hospital level. Each hospital was treated as a unit of analysis, resulting in a larger sample size than the number of individual respondents. Comparisons between categorical variables were performed using the Chi-square or Fisher's exact test, depending on sample size. A p-value of <0.05 was considered statistically significant. Data analysis was conducted using SPSS for Windows, version 23 (IBM Corp., 2015).

RESULTS

Information was collected from 14 healthcare professionals, seven of whom worked at two institutions simultaneously, resulting in data from 21 hospitals (13 public and 8 private). Most responses came from Santiago (9; 64.29%), with additional responses from Castro, Quillota, San Felipe, Santa Cruz, and Viña del Mar (Figure 1). Private hospitals were located in Santiago (8) and Santa Cruz (1). The mean age of respondents was 43.29 ± 8.86 years, with a mean of 13.93 ± 7.24 years of professional experience in the country. Most participants were men (57.14%). The majority were stroke neurologists (8; 57.14%), followed by

general neurologists (2; 14.29%), physiatrists (2; 14.29%), one speech-language therapist (7.14%), and one neurologist with a different specialty (7.14%).

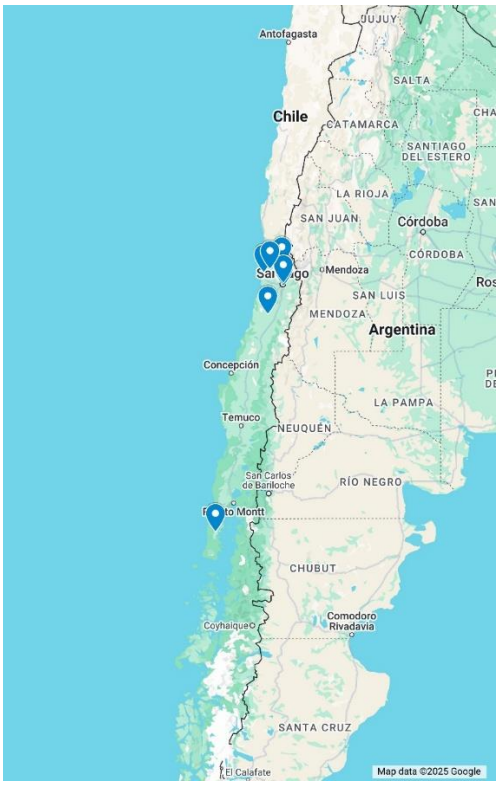

Figure 1. Location of cities represented by participants.

Participant responses were contradictory regarding the availability of national clinical guidelines for post-stroke rehabilitation; 5 (35.71%) reported that such guidelines exist, 8 (57.14%) stated that they do not, and 1 participant (7.14%) was unaware of their existence. No significant differences were observed between respondents with and without knowledge of the guidelines' availability.

Regarding access to botulinum toxin, only two respondents (14.29%) reported that the public healthcare sector funds it, and another two (14.29%) indicated that they were not aware of this information. The remaining 10 (71.43%) stated that it is not publicly funded.

The main barriers to accessing rehabilitation services in Chile are presented in Figure 2. For inpatient rehabilitation in the public sector, the primary barrier reported was the lack of infrastructure, followed by insufficient coverage and understaffing. In the private sector, the main barrier was a lack of insurance coverage, followed by physicians not recommending rehabilitation.

For outpatient rehabilitation, the main barriers in the public sector were the distance to rehabilitation centers, followed by understaffing and inadequate infrastructure. In contrast, in the private sector, the main barrier was a lack of health coverage, followed by insufficient knowledge among rehabilitation professionals.

Figure 2. Barriers to accessing inpatient and outpatient rehabilitation post-stroke in the public and private sectors in Chile.

Responses to the open-ended question provided additional insights into barriers to post-stroke rehabilitation. Regarding inpatient care, participants mentioned issues with interdisciplinary articulation, public policy, the number of work positions, and the location of rehabilitation services. In contrast, for outpatient rehabilitation, participants identified barriers like service location, human resources, insurance coverage, and caregiver training. The open-ended responses are summarized in Table 1.

Concerning rehabilitation services in the participants' workplaces, the results indicate that physical therapy, occupational therapy, speech-language therapy, and neuropsychology services were more frequently available in the private sector compared to the public sector; however, the difference was not statistically significant (Table 2). Additionally, participants reported that patients in the private sector were more frequently assessed for mental health during hospitalization. Finally, neuropsychology was the least frequently offered rehabilitation service in both sectors.

DISCUSSION

This study aimed to describe the main barriers to accessing post-stroke rehabilitation in Chile. To this end, 14 healthcare professionals representing 21 hospitals across six cities in the country were surveyed. The findings reveal that these barriers differ between the public and private sectors, both in inpatient and outpatient settings. However, no statistically significant differences are observed between hospitals regarding the availability of rehabilitation services. Finally, the results show discrepancies among respondents concerning their knowledge of national post-stroke rehabilitation guidelines.

Table 1. Themes related to open responses about barriers to inpatient and outpatient post-stroke rehabilitation.

Theme	Quote
Barriers to Inpatient Rehabilitation	
Interdisciplinary Articulation	*"Lack of early articulation in the acute stage, to establish in-hospital goals with physical medicine and rehabilitation services"*
Clear Regulations	*"Clear public policy in this context"*
Human Resources	*"Creation of positions for rehabilitation professionals"*
Location	*"Most hospitals with a rehabilitation service have their facilities elsewhere, far from post-stroke units, and they cover mainly outpatient care."*
Barriers to Outpatient Rehabilitation	
Location	*"Geographic barriers are significant."*
Human Resources	*"Lack of positions for salaried professionals"*
Health Coverage	*"It is very costly and not always covered by health insurance."*
Caregiver Training	*"Lack of training programs for caregivers and rehabilitation programs in hospitals across the country."*

Table 2. Availability of post-stroke rehabilitation services in the participants' workplaces.

Services Offered	Inpatient, Public Hospital N=13	Inpatient, Private Hospital N=8	p-value	Outpatient, Public Hospital N=13	Outpatient, Private Hospital N=8	p-value
Physiotherapy	12 (92.3%)	8 (100%)	0.421	11 (84.6%)	8 (100%)	0.507
Occupational Therapy	11 (84.6%)	7 (87.5%)	0.854	11 (84.6%)	7 (87.5%)	0.684
Speech-Language Therapy	12 (92.3%)	8 (100%)	0.421	11 (84.6%)	8 (100%)	0.507
Neuropsychology	6 (46.2%)	6 (75%)	0.195	5 (38.5%)	7 (87.5%)	0.065
Mental Health Assessment	10 (76.9%)	8 (100%)	0.446	-	-	-

More than 75% of respondents report a lack of infrastructure as the main barrier in the public sector, compared with 14% in the private sector. This difference may be partly explained by disparities in healthcare expenditure between the two sectors. Over the past decade, the proportion of total health expenditure financed by the public sector in Chile increased from 47.1% in 2010 to 54.71% in 2022, while the share of private sector spending decreased from 52.89% to 45.29% during the same period (World Bank Group, 2024a, 2024b). These figures indicate a gradual shift in the country's healthcare financing structure, with a growing share of public spending. However, in 2000, private sector allocation accounted for 64% of total health expenditure. Although the recent data may suggest a more balanced distribution, it is noteworthy that the private sector comprises less than one-quarter of the country's healthcare facilities. In this context, per capita spending in the private sector remains considerably higher, which may translate into better infrastructure than the public sector (Oliveira et al., 2021).

Similarly, understaffing was more evident in the public sector. This finding is particularly relevant since Chile has the second-highest number of rehabilitation professionals in the Americas, suggesting that a large proportion of these professionals are in the private sector (Pan American Health Organization [PAHO], 2024). The National Rehabilitation Plan 2021–2030 aims, among other aspects, to reduce human resource gaps in this area (MINSAL, 2021). According to this plan, there will be a detailed analysis of workforce gaps in the second half of 2025, informing the development of strategies to improve the training and retention of rehabilitation professionals. It is recommended that this analysis explicitly consider differences between the public and private sectors and propose mechanisms to strengthen recruitment and retention of rehabilitation staff in the public system, where the majority of the population receives care.

These findings underscore how crucial it is to increase public health expenditure and direct resources toward reducing the barriers identified in this study. For example, funds could be

allocated to expand the availability of rehabilitation services in public hospitals and outpatient centers, as well as increase the number of professionals in the public sector.

Lack of health coverage was identified as a barrier in both the public and private sectors, impacting inpatient and outpatient rehabilitation. Notably, it was identified as the main barrier in the private sector. This finding is remarkable since nearly the entire Chilean population has either public or private health coverage (MINSAL, 2017). Moreover, post-stroke rehabilitation is included in the GES program (Superintendencia de Salud, 2024), which covers inpatient and outpatient treatment as well as the medical equipment to support patient mobility (MINSAL, s. f.). This suggests the existence of unexplored gaps in access to these services — for example, a lack of awareness among healthcare professionals or patients regarding covered benefits. Further research is needed to explore this issue in greater depth.

Responses to the open-ended question highlighted the need to strengthen multidisciplinary articulation and the infrastructure for post-stroke rehabilitation. Chile has advanced in the creation of public policies in this regard, such as the establishment of stroke macro-regions and community-based rehabilitation networks (MINSAL, 2021; Red Nacional de ACV, 2022). While this aligns with the recommendations of the World Health Organization, which promotes services at regional or local levels to ensure patient-centered care, macro-regions and community networks must communicate effectively in order to avoid fragmentation of care.

The need to train caregivers as part of the rehabilitation process was also emphasized, a recommendation consistent with the National Rehabilitation Plan 2021–2030. This plan proposes developing a strategy where caregivers or family members are considered co-therapists, and includes a respite caregiver program with targets set for the second half of 2026. Monitoring the implementation of these measures and evaluating their impact, once operational, will be crucial.

Geographical distance was identified as the primary barrier to accessing outpatient rehabilitation services, particularly in the public sector. This discrepancy is understandable, given that approximately 80% of the Chilean population relies on this sector (Zavaleta-Monestel et al., 2024). Due to the high costs and staffing requirements associated with new centers, it is unlikely that new facilities will be built in the short term. In this context, it is critical to implement strategies that optimize the use of existing resources.

Telemedicine for stroke, or telestroke, has shown successful outcomes in Chile, even during the COVID-19 pandemic (Delfino et al., 2022; Mansilla et al., 2019). However, its use has been primarily focused on the acute phase of treatment. Available evidence indicates that telerehabilitation is comparable to in-person care, particularly for patients living in remote areas (Duncan & Bernhardt, 2021; Tchero et al., 2018), and increasing patient awareness of this modality could promote its application. In this regard, a survey of 294 primary care patients from both urban and rural areas revealed that only 42% were aware of telemedicine. Nevertheless, the study also found high levels of satisfaction and confidence: 95% of patients believed that this tool could address their health problem (Kurte Palma et al., 2021). Considering that Chile already has a telemedicine network, it is recommended to assess the feasibility and effectiveness of providing outpatient rehabilitation services through this modality.

Furthermore, discrepancies were observed in the respondents' knowledge about the availability of national rehabilitation guidelines and the use of botulinum toxin. In a subanalysis (results not shown), no factors were directly associated with this knowledge. Therefore, it is recommended that information on services covered by the public system be widely disseminated, as a lack of awareness may limit access and negatively affect patient recovery.

This study has several limitations. Firstly, it is a sub-study of a multinational survey conducted in Latin America. The sample size was calculated based on a population of professionals from various countries, primarily contacted through the social media channels of ALATAC and national stroke organizations. Secondly, the sample was mostly comprised of neurologists, with only two physiatrists, who typically play a central role in rehabilitation teams in Chile. This restricts the representativeness of the disciplines that comprise these teams. Thirdly, although responses came from multiple cities, providing a broad perspective on hospital care, the sample should be expanded to include a larger number of rehabilitation professionals.

Furthermore, future research should consider the perspectives of patients, caregivers, and other key stakeholders in the care process to gain a more comprehensive understanding of the barriers faced by stroke survivors. Another important limitation is that, despite the open-ended question, it was not possible to specify which aspects of the infrastructure represent barriers. This is particularly relevant considering that the number of public hospitals—where these barriers were most frequently reported—far exceeds that of private hospitals. Collecting more precise information about these limitations would facilitate designing more effective strategies to

address them and improve access to rehabilitation within the public health system.

CONCLUSION

Despite advances in health policies in Chile aimed at stroke management, there are still significant barriers to accessing post-stroke rehabilitation. These barriers vary between the public and private sectors, both in inpatient and outpatient settings, highlighting the need to implement sector-specific strategies. Moreover, there is a need for greater dissemination of information among healthcare professionals regarding services covered by the public system, to ensure that patients can effectively access available benefits. Future research should explore in depth the underlying causes of the apparent lack of coverage, incorporate the perspectives of patients and caregivers about barriers, and evaluate the feasibility and effectiveness of telemedicine as a tool to expand access to rehabilitation services.

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REFERENCES

Delfino, C., Mazzon, E., Cavada, G., Muñoz Venturelli, P., Brunser, A. M., Jurado Díaz, F., Cisternas, L. L., Rocha Jiménez, D., Arévalo Valdivia, M., Rojas Torres, D., & Mansilla, E. (2022). A Chilean Experience of Telestroke in a COVID-19 Pandemic Year. *Cerebrovascular Diseases (Basel, Switzerland)*, *51*(5), 690–694. https://doi.org/10.1159/000523920

Duncan, P. W., & Bernhardt, J. (2021). Telerehabilitation: Has Its Time Come? *Stroke*, *52*(8), 2694–2696. https://doi.org/10.1161/STROKEAHA.121.033289

Gongora-Rivera, F., Gonzalez-Aquines, A., Marquez-Romero, J. M., & Neurological Endovascular Therapy – Mexican Group (NET-MX Group). (2021). Identification of Barriers to Access Endovascular Treatment for Acute Ischemic Stroke in the Health Care System of Mexico: Results From a National Survey Among Endovascular Neurologists. *Frontiers in Neurology*, *12*. https://doi.org/10.3389/fneur.2021.601328

Gonzalez-Aquines, A., Rosales, J., De Souza, A. C., Corredor-Quintero, A., Barboza, M. A., Navia-Gonzalez, V., Brunet-Perez, F., Lagos-Servellon, J., Novarro-Escudero, N., Ortega-Moreno, D. A., Villarroel-Saavedra, V., Abanto, C., Barrientos-Guerra, J. D., Saltos-Mata, F., Papavasileiou, V., Todd, O., & Gongora-Rivera, F. (2024). Availability and barriers to access post-stroke rehabilitation in Latin America. *Journal of Stroke and Cerebrovascular Diseases*, *33*(10), 107917. https://doi.org/10.1016/j.jstrokecerebrovasdis.2024.107917

IBM Corp. (2015). *IBM SPSS Statistics for Windows* (Versión 23, Vol. 28) [Software]. IBM Corp. https://hadoop.apache.org

Institute for Health Metrics and Evaluation [IHME]. (2024). *GBD Compare*. Institute for Health Metrics and Evaluation. http://vizhub.healthdata.org/gbd-compare

Kurte Palma, I. A., Pérez Álvarez, C. A., & Abril Hernández, L. J. (2021). *Análisis del uso de la telemedicina en establecimientos ubicados en zonas rurales en la atención primaria de Salud* [Tesis de Magister, Universidad Andres Bello]. https://repositorio.unab.cl/xmlui/handle/ria/51841

Lavados, P. M., Hoffmeister, L., Moraga, A. M., Vejar, A., Vidal, C., Gajardo, C., Portales, B., San Martín, D., Lopez, E., Rojo, A., Olavarria, V. V., Almeida, J., Brunser, A. M., Muñoz Venturelli, P., Diaz, V., Hoppe, A., & Sacks, C. (2021). Incidence, risk factors, prognosis, and health-related quality of life after stroke in a low-resource community in Chile (ÑANDU): A prospective population-based study. *The Lancet. Global Health*, *9*(3), e340–e351. https://doi.org/10.1016/S2214-109X(20)30470-8

Mansilla, E., Mazzon, E., Cárcamo, D., Jurado, F., Lara, L., Arévalo, M., Rojas, D., Stephens, G., Hoppe, A., Brunser, A., Mansilla, E., Mazzon, E., Cárcamo, D., Jurado, F., Lara, L., Arévalo, M., Rojas, D., Stephens, G., Hoppe, A., & Brunser, A. (2019). Telestroke en Chile: Resultados de 1 año de experiencia de la Unidad de TeleACV del Servicio de Salud Metropolitano Sur en 7 hospitales ejecutores. *Revista médica de Chile*, *147*(9), 1107–1113. https://doi.org/10.4067/s0034-98872019000901107

Martins, S. C. O., Lavados, P., Secchi, T. L., Brainin, M., Ameriso, S., Gongora-Rivera, F., Sacks, C., Cantú-Brito, C., Alvarez Guzman, T. F., Pérez-Romero, G. E., Muñoz Collazos, M., Barboza, M. A., Arauz, A., Abanto Argomedo, C., Novarro-Escudero, N., Amorin Costabile, H. I., Crosa, R., Camejo, C., Mernes, R., … Nogueira, R. G. (2021). Fighting Against Stroke in Latin America: A Joint Effort of Medical Professional Societies and Governments. *Frontiers in Neurology*, *12*. https://doi.org/10.3389/fneur.2021.743732

Ministerio de Salud [MINSAL]. (s. f.). *Listado específico de prestaciones—Ataque cerebrovascular isquémico en personas de 15 años y más* [Gubernamental]. Listado específico de prestaciones. Recuperado 3 de septiembre de 2025, de https://auge.minsal.cl/problemasdesalud/lep/37

Ministerio de Salud [MINSAL]. (2014). *Plan de acción ataque cerebrovascular*. Ministerio de Salud. https://redcronicas.minsal.cl/wp-content/uploads/2024/05/Plan-de-accion-acv.pdf

Ministerio de Salud [MINSAL]. (2017). *Universal Health Coverage in Chile – Monitoring the progress of Universal Health Coverage in APEC Region: Towards "Healthy Asia-Pacific 2020"* [Presentación de PowerPoint]. APEC-GAR. https://www.minsal.cl/wp-content/uploads/2017/07/PRESENTACION-APEC-GAR-25-de-julio-2017.pdf

Ministerio de Salud [MINSAL]. (2021). *Plan Nacional de Rehabilitación 2021-2030*. Ministerio de Salud. https://rehabilitacion.minsal.cl/wp-content/uploads/2022/03/Plan-Nacional-de-Rehabilitacion-2021-2030-version-web.pdf

Oliveira, S. C. de, Machado, C. V., Hein, A. R. A., & Almeida, P. F. de. (2021). Public-private relations in Chile's health system: Regulation, funding and service delivery. *Ciencia & Saude Coletiva*, *26*(10), 4529–4540. https://doi.org/10.1590/1413-812320212610.09892021

Organización Panamericana de la Salud [OPS]. (2024). *Fuerza laboral de rehabilitation*. https://www.paho.org/es/enlace/fuerza-laboral-rehabilitation

Rosales, J., Corredor-Quintero, Á. B., Carbonera, L. A., Alet, M. J., Amaya, P., Cano-Nigenda, V., Barboza, M. A., Navia, V., Jiménez, C. A., Guerrero, R., de Souza, A. C., & ALATAC group. (2024). Regional Initiatives to Empower Young Medical Doctors: The Young Stroke Latin American Task Force. *Cerebrovascular Diseases (Basel, Switzerland)*, *53*(2), 233–238. https://doi.org/10.1159/000531649

sobre Red Nacional de ACV, 4359 C26 (2022). https://redcronicas.minsal.cl/wp-content/uploads/2024/05/4359-ORD.-RED-NACIONAL-ACV.pdf

STROBE. (2025). *Cross-sectional studies*. STROBE Strengthening the Reporting of Observational Studies in Epidemiology. https://www.strobe-statement.org/checklists/

Superintendencia de Salud. (2024). *Ataque Cerebrovascular Isquémico en personas de 15 años y más*. Superintendencia de Salud, Gobierno de Chile. https://www.superdesalud.gob.cl/orientacion-en-salud/ataque-cerebrovascular-isquemico-en-personas-de-15-anos-y-mas/

Tchero, H., Tabue-Teguo, M., Lannuzel, A., & Rusch, E. (2018). Telerehabilitation for Stroke Survivors: Systematic Review and Meta-Analysis. *Journal of Medical Internet Research*, *20*(10), e10867. https://doi.org/10.2196/10867

Winstein, C. J., Stein, J., Arena, R., Bates, B., Cherney, L. R., Cramer, S. C., Deruyter, F., Eng, J. J., Fisher, B., Harvey, R. L., Lang, C. E., MacKay-Lyons, M., Ottenbacher, K. J., Pugh, S., Reeves, M. J., Richards, L. G., Stiers, W., Zorowitz, R. D., & on behalf of the American Heart Association Stroke Council, Council on Cardiovascular and Stroke Nursing, Council on Clinical Cardiology, and Council on Quality of Care and Outcomes Research. (2016). Guidelines for Adult Stroke Rehabilitation and Recovery. *Stroke*, *47*(6), e98–e169. https://doi.org/10.1161/STR.0000000000000098

World Bank Group. (2024a). *Domestic general government health expenditure (% of current health expenditure) – Chile*. World Bank Open Data. https://data.worldbank.org

World Bank Group. (2024b). *Domestic private health expenditure (% of current health expenditure)—Chile*. World Bank Open Data. https://data.worldbank.org

Zavaleta-Monestel, E., Zovi, A., Morales-Vallespín, J., Martínez-Sesmero, J. M., Rojas-Barrantes, Z., Serrano-Arias, B., Arguedas-Chacón, S., Díaz-Madriz, J. P., Villalobos-Madriz, J. A., Langella, R., Ortiz-Barboza, A., & Ferrara, F. (2024). A cross-national performance comparison universal healthcare systems of Chile, Costa Rica, Italy, and Spain using OECD data. *Discover Health Systems*, *3*(1), 20. https://doi.org/10.1007/s44250-024-00085-7