

Artículo original

Brechas en Reumatología: barreras geográficas y estructurales para los servicios de Reumatología en el sur de Argentina

Gaps in Rheumatology: geographic and structural barriers to Rheumatology services in southern Argentina

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RESUMEN

Introducción: la Argentina es un país extenso con atención reumatológica limitada y distribuida de manera desigual.

Objetivos: describir el alcance geográfico de la atención reumatológica en el sur de la Argentina y cuantificar la distancia recorrida por los pacientes para acceder a dicha atención, junto con las modalidades asistenciales, cobertura de salud y tipos de enfermedades observadas.

Materiales y métodos: estudio descriptivo, observacional y transversal. Se identificaron características de la atención de los pacientes atendidos en consultas externas de reumatología durante un mes.

Resultados: en la región ejercen 36 reumatólogos (solo 2 pediátricos) y 2 residentes, con una densidad de 1,22 por 100.000 habitantes y 1,98 por 100.000 km². Se registraron 867 horas semanales de atención en 77 puntos de consulta ubicados en 63 centros, solo 13 hospitalares. La mayoría de los pacientes recorrió distancias cortas (mediana 4 km), aunque un 12% viajó 20-100 km y un 16,6% más de 100 km. Este último grupo utilizó más telemedicina y consultorios privados.

Conclusiones: se identificaron marcadas desigualdades geográficas y estructurales en el acceso a la atención reumatológica en el sur de la Argentina, destacando la escasez de especialistas y las grandes distancias recorridas por muchos pacientes. Se requieren estrategias específicas para reducir estas disparidades.

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ABSTRACT

Introduction: Argentina is a large country with limited and unevenly distributed rheumatologic care.

Objectives: to describe the geographic reach of rheumatologic care in southern Argentina and quantify the distance patients travel to access such care, along with healthcare coverage, care modalities, and the types of diseases observed.

Materials and methods: Descriptive, observational, cross-sectional study. Characteristics of patient care were identified from all individuals seen in outpatient rheumatology consultations over a one-month period.

Results: A total of 36 rheumatologists (only 2 pediatric) and 2 residents practice in the region, with a density of 1.22 per 100,000 inhabitants and 1.98 per 100,000 km². A total of 867 weekly care hours were recorded across 77 consultation points located in 63 centers, of which only 13 were public hospitals. Most patients traveled short distances (median 4 km), although 12% traveled 20–100 km and 16.6% more than 100 km. This latter group made greater use of telemedicine and private clinics.

Conclusions: Significant geographic and structural disparities in access to rheumatologic care were identified in southern Argentina, highlighting the scarcity of specialists and the long distances many patients must travel. Targeted strategies are needed to reduce these disparities.

INTRODUCTION

The Argentine Society of Rheumatology (SAR) is composed of 10 regional branches that encompass all provinces across the national territory. Specifically, the Southern Rheumatology Society (Sociedad Reumatológica del Sur, SRS) represents the provinces of Chubut, La Pampa, Neuquén, Río Negro, Santa Cruz, and Tierra del Fuego¹. This region covers a geographical area of 1819167.3 km² and, according to the 2022 national census, has a population of 2939020 inhabitants, representing 6.5% of the country's total population².

The national average of rheumatologists per 100,000 inhabitants reported in 2015 was 1.8³. Although this number is higher than in many Latin American countries, the national distribution of professionals is uneven. Regarding the broader health workforce, the national average of physicians per 1000 inhabitants is 4.05, while the provinces within the SRS report presented lower rates (2.99–3.96), except for Tierra del Fuego (4.72)⁴.

The combination of low specialist density and large geographic distances between

patients and rheumatologists negatively impacts access to specialized care, potentially contributing to delayed diagnosis, suboptimal disease monitoring, and worse outcomes. Moreover patients with rheumatic diseases are more likely to receive care from general practitioners or internists without formal training in rheumatology^{5,6}. To examine this issue and to explore potential interventions to improve access, we developed a descriptive study evaluating the geographic reach of rheumatologic care in southern Argentina.

The primary objective of this study was to describe the geographical reach of rheumatologic medical care in the southern region of Argentina (Chubut, La Pampa, Neuquén, Río Negro, Santa Cruz, and Tierra del Fuego). Additionally, to quantify the distance traveled by patients to access rheumatologic care, describing the types of health coverage available, characterizing the modalities of care provided (inpatient, outpatient, and telemedicine), and detailing the types of immune-mediated and non-immune-mediated rheumatic diseases observed in rheumatologic consultations.

MATERIALS AND METHODS

Study design

A descriptive, observational, cross-sectional study was conducted. All members of the SRS were invited to participate in the study. They first completed a physician questionnaire to assess consultation characteristics. Then, all patients seen in the rheumatology outpatient clinics of participating physicians over the course of one month were consecutively included. All modalities of care were considered, including in-person consultations, telemedicine, email, and messaging.

Variables of interest

Regarding the information of the physician, province and city of residence, age, weekly hours dedicated to clinical rheumatology practice and medical center data (city and province, type, care setting and health coverage) were consigned. Health coverage was classified as follows: public, national social security, provincial social security, union social security, Programa de Asistencia Médica Integral (PAMI), private insurance. Later, patients data was entered cross-sectionally during a one-month period using a specifically designed case report form (CRF). Date of birth, sex, province and city of residence, distance from home to clinic, if over 20 km were consigned, reason for attending this rheumatologist, care setting (inpatient; outpatient; telemedicine; email, messaging, etc.), health coverage, first-time or follow-up visit and type of disease were recorded.

Ethical considerations

This study was conducted in accordance with Good Clinical Practice (GCP) guidelines as defined by the International Conference on Harmonisation (ICH) and the ethical principles outlined in the Declaration of Helsinki, Law 3301/09, and the regulations of the relevant Ethics Committee. Personal identifying data remained anonymous and protected following both international and national regulations to ensure confidentiality, in compliance with Argentina's Personal Data Protection Law No. 25.326/2000.c. The study protocol and the informed consent form was approved by an Independent Ethics Committee before study initiation (Ethic Committee Dr. Claude Bernard 20240226.PI).

Statistical analysis

Descriptive statistics was used. Quantitative variables were expressed as mean and standard deviation or median and interquartile range, depending on their distribution. Categorical variables were presented as absolute and relative frequencies. The overall and provincial rheumatologist density was estimated using population data from the most recent national census² (Number of inhabitants: La Pampa 361859, Neuquén 710814, Río Negro 750768, Chubut 592621, Santa Cruz 337226, Tierra del Fuego 185.732) and expressed as the number of rheumatologist per 100000 inhabitants and per km².

To compare the characteristics of patients who travel over 20 km for their consultation Chi-squared or Fisher's exact tests were used, as appropriate. A p value <0.05 was considered significant. The R program version 4.0.0 (Free Software Foundation, Inc., Boston, USA) was used for the analyses.

RESULTS

In the southern region of Argentina, a total of 36 rheumatologists provide care, of whom only 2 cover the pediatric population. Additionally, two physicians are in training. Two rheumatologists (5.5%) travel from other provinces to the region to conduct consultations. A total of 22 (58.9%) are female, with median age 45.5 years (IQR 12). Five rheumatologists are of retirement age but continue to work. In five years, seven will be in this situation, representing 18.4% of the professionals in the area. Although all provinces are covered, only 26 cities have rheumatology attention (Figure 1). Fourteen rheumatologists work in more than one city and six of them also in different provinces. In this region, the density of rheumatologists is 1.22 per 100000 inhabitants and 1.98 per 100000 km². Density of rheumatologists per province is shown in Figure 2A and B. When only the adult population was assessed, rheumatologists' density increased to 2.23 per 100000 inhabitants (Figure 2C).

A total of 867 weekly hours of rheumatologic care were registered in 77 medical consultation points available in 63 centers. Most of them were private offices (62.1%) and private clinics (20.8%). In the public sector, professionals were available in 13 hospitals. Only 26% of centers consider the use of telemedicine. Most of the consultation points cover private security (67.5

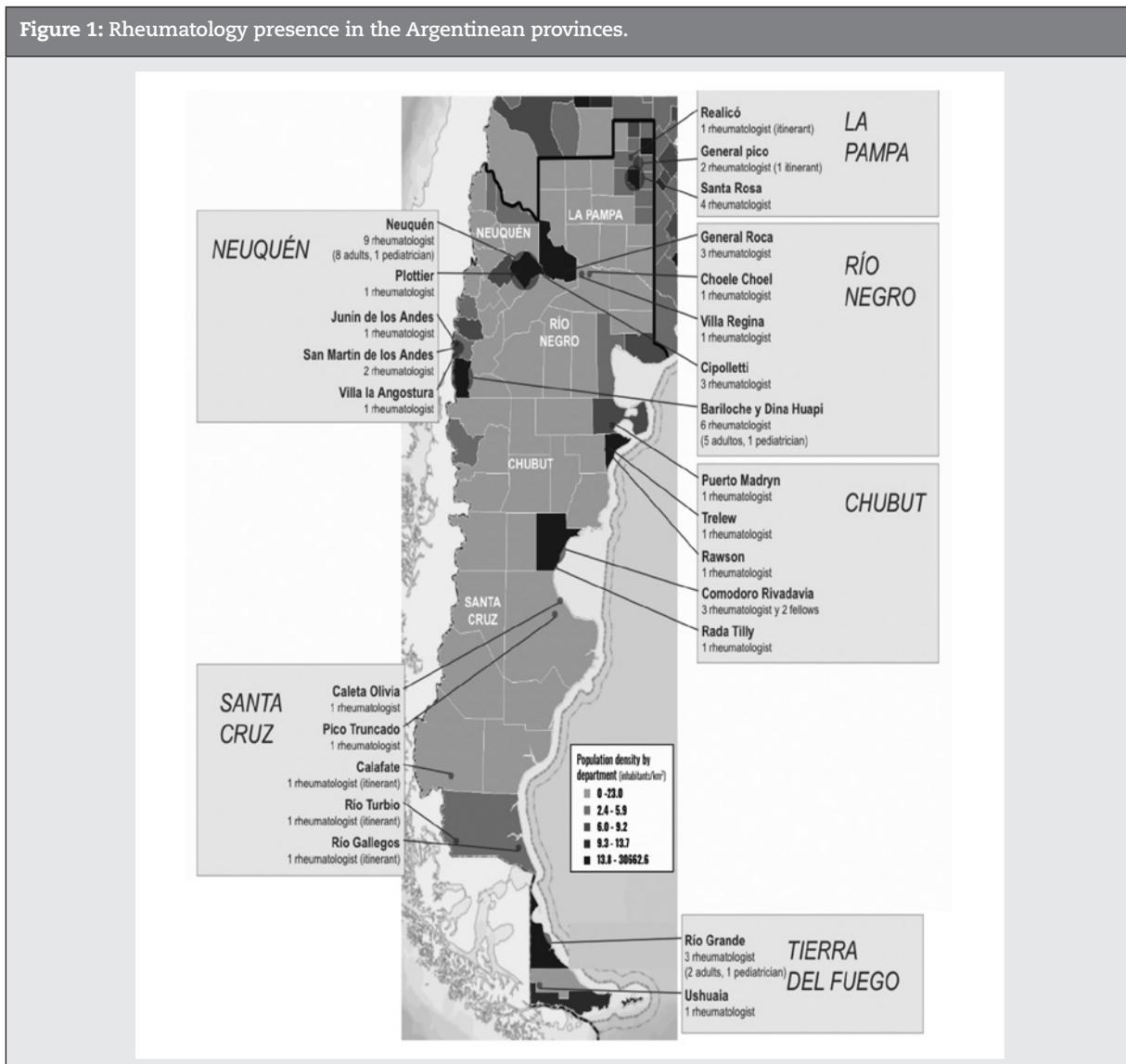
% and provincial social security (61.0%), and less frequently PAMI (46.8%), national social security (41.6%) and public health coverage (26.0%)

A total of 2311 consultations were registered between March and April 2024 by 24 rheumatologists. The majority of consultations were outpatient (91.3%), conducted in private offices (78.3%), and were primarily follow-up evaluations (79.2%). Of these, 16.6% were non-billed. Most cases involved immune-mediated diseases (60.1%). Although the distance traveled by patients was generally short (median 4 km, IQR 38), 12% of patients traveled between 20 and 100 km, and 16.6% traveled more than 100 km for their consultation. The main

reasons for traveling these longer distances were professional preference (57.0%), lack of specialists closer to their residence (21.0%), and referrals from other healthcare professionals (19.0%). The use of telemedicine was significantly higher in this group (1.5% vs. 0.3%, $p=0.010$), as were private consultations (16.5% vs. 9.9%, $p<0.001$).

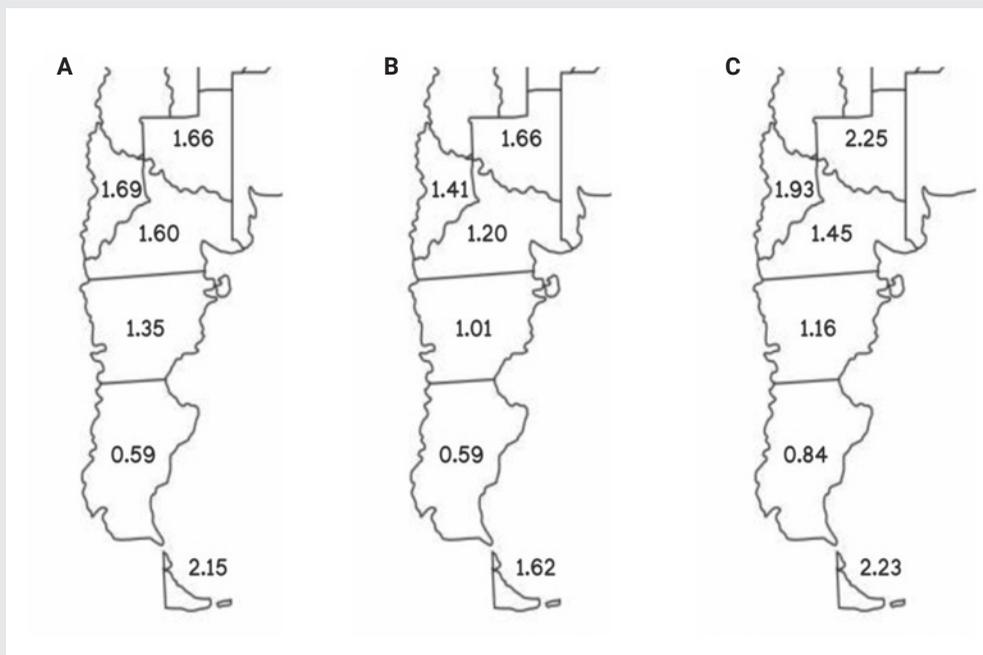
Additionally, 5.1% of patients resided in a different province from the healthcare center where they were treated. The highest frequencies of patients from other provinces were recorded in healthcare centers located in Río Negro (7.5%), Neuquén (6.7%), and Chubut (6.1%) ($p<0.001$).

Figure 1: Rheumatology presence in the Argentinean provinces.



Rheumatological care in the Argentine provinces from the Southern Rheumatology Society according to population density per square kilometer.

Figure 2: Density of rheumatologists per 100000 inhabitants by province.



Density of rheumatologists, total (A) and by primary province of care (B) per 100000 inhabitants by province from the Southern Rheumatology Society. Additionally, rheumatologist density considering only adult care was calculated (C).

DISCUSSION

This study highlights significant geographic disparities in access to rheumatologic care across southern Argentina. On average, there are 1.22 rheumatologists per 100000 inhabitants and 1.98 per 100000 km². However, this availability varies widely between provinces, ranging from 0.6 to 1.6 specialists per 100,000 people. Rheumatology services are only offered in 26 cities across the region, and within the public healthcare system, rheumatologists are available in only 13 hospitals.

The disparities in the allocation of healthcare professionals have been documented at the national level previously. Argentina's Federal Observatory of Human Health Resources had already reported a national average of 4.05 physicians per 1000 inhabitants; however, in the provinces that make up the SRS, this ratio drops to between 2.99 and 3.96, except in Tierra del Fuego, which has 4.72. These statistics are markedly lower than those recorded in provinces with strong academic centers, such as Buenos Aires (16.3), Santa Fe (4.6), and Córdoba (4.4).⁴ This variation indicates a significant

concentration of professionals in training centers, who frequently continue their work in these regions.

A previous study by Dr. Schneeberger and colleagues mapped Argentina's rheumatology workforce and found a national average of 0.34 rheumatologists per 10000 km² and 2.97 per 100000 adults. In their study, the reported densities for the provinces included in the SRS ranged from 1.3 in Río Negro to 2.4 in Tierra del Fuego. Their analysis included five rheumatologists who did not respond to our survey (three from Santa Cruz, one from Chubut, and one from Neuquén), excluded pediatric rheumatologists and was based on the province where doctors had the highest patient load. In contrast, our study incorporated two rheumatologists who had recently begun practicing in the region. A particularly alarming finding in our study is the critical gap in pediatric care: only two pediatric rheumatologists were identified in the entire region. This means many children with rheumatic conditions are either not seen by a specialist or must be referred within the region—or, in many

cases, transferred to other provinces, such as Ciudad Autónoma de Buenos Aires, to receive appropriate care.

This problem isn't unique to Argentina. Similar disparities have been documented in Brazil, Mexico^{5,6}, and even in high-income countries^{3,8}. For example, studies in Ontario, Canada, show that patients with inflammatory arthritis in remote or lower-income areas have fewer rheumatology visits⁹⁻¹¹.

A study published by PANLAR in 2021 which assessed the Latin American rheumatology workforce highlighted similar inequalities. The number of inhabitants per rheumatologist varied widely between countries, from around 27,426 in Uruguay to over 640,000 in Nicaragua. Argentina ranked second, with about 40,384 inhabitants per rheumatologist. However, Argentine specialists were among the lowest paid in the region⁸, which may explain why they concentrate in large urban areas, where broader employment opportunities and higher earning potential exist. Meanwhile, remote regions struggle to attract specialists due to isolation, fewer institutional resources, and limited financial incentives. It's also worth noting the high number of unpaid consultations, a reality in daily clinical practice.

In this context, telemedicine emerges as a valuable tool. In our study, 7.7% of consultations were conducted remotely, mostly by patients living far from healthcare centers. Video consultations, unlike phone calls, improve patient and physician satisfaction by allowing patients to share the results of their self-examinations and enabling rheumatologists to better assess physical and mental health through non-verbal communication cues^{12,13}. This format helps ensure consistent follow-up, reduce travel costs, and ease pressure on the health system. However, as EULAR guidelines state, some key visits, like diagnosis and treatment initiation, should still happen in person¹⁴. Additionally, not all patients benefit equally from virtual care. Older adults, those in poor health, or people lacking access to technology may face barriers^{15,16}. That's why flexible, hybrid models are needed, balancing virtual and in-person care based on individual needs, geography, and disease complexity.

Finally, this study has its limitations. First, it was based on a voluntary survey distributed

among SRS members. Although we reached out to other rheumatologists practicing in the region, not all responded. Furthermore, only a portion contributed data for the analysis of medical consultations. Still, we consider the actively collected data reliable, as it came directly from treating specialists through a standardized form. Secondly, this is a cross-sectional descriptive study, which does not allow for the establishment of causal relationships, such as the consequences of limited access to rheumatologic care or the clinical benefits of telemedicine. However, it provides a valuable snapshot of current rheumatologic care in southern Argentina and identifies key areas for improvement, serving as a foundation for future research and policy interventions. To our knowledge, this is the first study of its kind conducted in this region and it sets the stage for future research and targeted strategies to improve access to care.

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