

# Comparing the profile of hospital discharges between nationals and international migrants: a decade of contrasts and health challenges for Chile (2013 to 2022)

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# **ABSTRACT**

**INTRODUCTION** Migration is a recognized social determinant in the world. Chile has experienced an abrupt increase in immigration in recent years, with increasing demand on health care services. The aim of this study was to compare the profile of hospital discharges between nationals and migrants in Chile.

**METHODS** An observational study was conducted using routinely collected health data, analyzing the database of hospital discharges of the Ministry of Health in the decade between 2013 and 2022.

**RESULTS** There were 16 013 995 hospital discharges (95% Chilean and 2% foreigners and 3% with no information), with higher proportions in the north of the country. Discharches of foreigners show a steady increase, rising sixfold over the decade (from 0.7 to almost 4%). There are significant differences in the distribution by sex (Chileans: 41.2% men/58.8% women; foreigners: 22.4% men/77.6% women). According to age, in both populations, the highest frequency of discharges occurred between 20 and 39 years of age (30.3% in Chileans and 68.7% in foreigners). Death at discharge occurred in 2.4% of Chileans and 0.9% of foreigners. The most frequent diagnosis of discharge was the pregnancy, delivery and puerperium' group, with significant differences (20% Chileans and 58.5% foreigners). Chileans have a higher proportion of cardiovascular diagnosis (12.1% versus 7.5%) and respiratory diseases (13.2% versus 7.5%), while foreigners have a higher proportion of trauma, poisoning and other external causes (13.9% Chileans versus 22.1% foreigners).

**CONCLUSIONS** The growth of the immigrant population has increased the demand for hospital resources, requiring adjustments in planning and resource allocation. It is suggested that inclusive policies focus on prioritizing maternal-child care and accident and injury prevention for migrants.

**KEYWORDS** Immigration status, health care services, hospital resources, foreigners, discharges

# **INTRODUCTION**

Migration is a recognized social determinant in the world [1,2]. The conditions surrounding the migration process make this population potentially vulnerable and their cross-border movement has a great impact on public health [2,3]. Although Chile has limited official statistical data on the prevalence of diseases or health conditions among immigrants, the Ministry

of Health began to take special protective measures for this population in 2016. In March of that year, Supreme Decree No. 67 was published, which sets the circumstances and mechanism for accrediting people lacking resources as beneficiaries of the National Health Fund (FONASA, the public insurance), adding the condition of immigrant people lacking resources without documents or without residence permits. This provides health coverage to the immigrant, placing them on an equal footing with Chileans [4,5]. Migrants who have an employment contract or who contribute independently have access to health care through the National Health Fund or the system of Private Security Health Institutions, both the contributor and his or her direct family members and dependents [4]. In this way, progress has been made in equitably improving access to health services, in accordance with legislation, national practices, and various international human rights instruments ratified by Chile [3].

Citation Hernández Vilches J, Ramírez-Santana M. Comparing the profile of hospital discharges between nationals and international migrants: a decade of contrasts and health challenges for Chile (2013 to 2022). Medwave 2025;25(08):e3086

DOI 10.5867/medwave.2025.08.3086

Submitted Apr 2, 2025, Accepted Aug 7, 2025,

Published Sep 22, 2025

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# **MAIN MESSAGES**

- The central problem is the rapid increase of the migrant population in Chile, with a growing impact on the demand for health care, especially in northern regions.
- The study brings novelty by analyzing a full decade of the hospital discharge database of the Department of Health Statistics and Information of the Chilean Ministry of Health, comparing migrants and nationals, including the period of the pandemic and one year after.
- A key limitation is the lack of detailed social and clinical variables in the database, which prevents an in-depth characterization of patients and their care, and the impossibility of estimating specific population rates.
- The main finding is that discharges of migrants increased sixfold, with a predominance of young women and diagnoses related to pregnancy, childbirth and puerperium, as well as trauma in men, which suggests prioritizing inclusive policies in maternal and child health and accident prevention.

It was in 2016 that the identification of the migrant population was incorporated into the Monthly Statistical Records in primary care. Likewise, guidelines are given to strengthen the registration of migration status in secondary and tertiary care (hospital discharges).

According to data from the National Institute of Statistics, 1 462 103 migrants were living in Chile in 2021 [6]. This figure shows a progressive increase in the number of people born outside the country, from 0.8% in 1992 to 7.5% in 2020. In addition, immigration experienced new growth in 2022, reaching a proportion of 8.7% of the total population [6], primarily comprising young people [7].

Regarding the origin of immigrants in our country, the Socioeconomic Characterization Survey 2022 indicates that immigrants of Venezuelan origin increased from 2% in 2013 to half of the total number of immigrants in the country that year [8]. The immigrant population is mainly concentrated in the Metropolitan Region, which gathers 65% of them. However, although the regions comprising the so-called Northern Macrozone (Arica and Parinacota, Tarapacá, Antofagasta, Atacama and Coquimbo) are home to a smaller number of the country's immigrants (15%), it is in these territories where the proportion of immigrants with respect to the total population reaches the highest figures. Particularly striking is the case of Tarapacá, where 17.5% of its inhabitants (one in six) are of foreign origin [8].

With respect to the use of health services, it has been evaluated whether there are differences in the probability of utilization between the two populations [3,9]. However, it has been found that the probability of hospitalization is lower in immigrants compared to nationals. This is explained by the lower age of migrants, the "healthy migrant" theory, having less access to health care or differences in the cultural valuation of the disease, among other reasons [10].

In Chile, few studies analyze the health aspects related to migrants. The present work aims to determine the profile of hospital discharges in Chile, comparing the discharges of nationals with those of foreigners, over the decade from 2013 to 2022. Its purpose is to contribute to future health policies. It is hypothesized that there are differences in the characteristics

of hospital discharges between migrants and Chileans. For example, in terms of distribution by sex, age, types of diagnosis, and frequency according to regions of the country.

# **METHODS**

An observational study was conducted with routinely collected data from the Hospital Discharge database of the Department of Health Statistics and Information for the years 2013 to 2022 of the Chilean Ministry of Health. It corresponds to a comparison of total annual hospital discharges between the national and international migrant population in Chile in the period studied.

# **Sources of information**

All hospital discharges for the decade from 2013 to 2022 were analyzed, corresponding to 16 013 995 discharges. The data on hospital discharges are compiled by the Department of Health Statistics and Information of the Chilean Ministry of Health, covering information from all public and private centers in the country. The comparison variable was the nationality of the individual, whether Chilean or foreign. A hospital discharge was considered to correspond to the national population if the patient indicated having Chilean nationality, and to international migrants if the person declared another nationality. The variables compared were age group, sex, region of residence (Figure 1), insurance (public insurance, National Health Fund or private insurance), type of facility (public or private), days of stay, discharge diagnosis (according to diagnostic groups of the International Classification of Diseases, 10th revision, ICD-10) and discharge condition (alive or deceased).

# **Data analysis**

The complete database for the study was extracted from the Department of Health Statistics and Information's web page using a Python program, which enabled the retrieval of basic tables in accordance with the set objectives. These tables were then transferred to Excel for analysis. We excluded 417 380 hospital discharge data records that did not include the variable "nationality", corresponding to 3% of the total number of discharges during the decade. With the cleaned data for

Figure 1. Political map of Chile, regions, and borders.

# Administrative map of chile with its regions and bordering countries



Bordering countries Chilean regions

Cartographic sources:

Instituto Nacional de Estadísticas de Chile, 2024 World Bank, 2025.

Source: Own elaboration, based on cartographic sources, National Institute of Chile, 2024 and World Bank, 2025.

each of the tables, we present absolute and relative frequencies (percentages) of hospital discharges according to nationality and their distribution by year, sex, age group, region of residence and the 10 main groups of diagnoses (according to

ICD-10), which correspond to 88.5% of the causes of discharge for the decade. In addition, prevalence ratios were calculated (relative frequency of hospital discharges in the period, among Chileans versus foreigners, for age groups and discharge

diagnoses), with their respective 95% confidence intervals, using the Epidat 4.2 calcupedev v10 tool [11].

# **RESULTS**

A six-fold increase in hospital discharges of foreign residents was observed between 2013 and 2022 (Table 1 and Figure 2).

As for the distribution by sex, in both population groups, women tend to be hospitalized more than men. Of these, more than half (58%) were related to reproductive diagnoses (women of childbearing age, tables 1 and 2).

Table 3 shows the age distribution of discharges of foreigners, in which young adults predominate, with more than two thirds of people between 20 and 39 years of age. While only one third of the national discharges correspond to these ages, and 28% of the Chilean discharges are over 60 years of age (Table 3 and Figure 3).

It was observed that the highest proportion of outflows of foreigners is concentrated in the regions of Tarapacá, Antofagasta and Arica-Parinacota (Table 4), areas with a high influx of immigrants due to the existence of border crossings, both legal and irregular [8].

The main discharge diagnoses in both types of residents are those related to "pregnancy, childbirth and puerperium", although among foreigners this diagnosis is almost three times higher than in Chileans (Figures 4 and 3). Among women, foreigners double the causes related to pregnancy, childbirth and puerperium, while Chilean women quadruple the frequency of discharges due to causes of the circulatory, respiratory and musculoskeletal systems (Table 2). Among men, trauma is the main cause of hospitalization among foreigners, almost doubling the frequency of Chileans, who are hospitalized mainly for diseases of the digestive system. The data also show that, excluding obstetric diagnoses, cardiovascular and respiratory diseases are more prevalent among Chileans, while trauma and poisoning are more common among foreigners. These differences were significant (data not shown).

The main provider corresponded to public hospitals, which accounted for 79.3% of the discharges of foreigners, a figure much higher than that of Chileans. The National Health Fund was the main insurer (data not shown).

In the period studied, 62.7% of Chilean discharges originated in hospitals belonging to the National Health Services System and 37.4% in other types of establishments (clinics or private hospitals). In the case of foreigners, 79.3% were discharged from hospitals belonging to the National Health Service System and 20.7% from other types of facilities (Figure 3).

Regarding the duration of hospitalization for Chileans and foreigners, it was observed that there were no significant differences in the average number of days of stay (data not shown). However, there is great variability in the maximum number of days of hospitalization at discharge. In the case of Chileans, the maximum number of days varied between 16 381 and 22 186. In the case of foreigners, it varied between 303 and

3654 (data not shown). Very long stays are related to mental health diagnoses (data not shown).

Regarding the condition at discharge, 2.4% of Chilean hospitalized patients died during the decade studied, while only 0.9% of foreigners died (Figure 3). Hospital mortality was significantly lower in foreigners compared to Chileans, being concentrated in younger age groups among foreigners (data not shown).

# **DISCUSSION**

The results of the study show that there are differences in the profile of hospital discharges between the local population and international migrants, confirming the hypothesis put forward and being consistent with the scarce literature on this subject. The main differences are because migrants who are hospitalized are younger and have a higher proportion of women compared to nationals. Strongly related to the above, the proportion of hospitalizations for reproductive causes is higher among foreign women. This finding is consistent with previous publications [2,5,9,10]. On the other hand, the frequency of admissions due to trauma in foreigners is significantly higher compared to nationals. Additionally, the proportion of admissions for circulatory and metabolic diseases is higher among nationals compared to foreigners. Previous studies describe, for example, that chronic diseases such as diabetes are less frequent in migrant populations with origins in communities that maintain traditional diets [13]. Other studies report a 39% lower frequency of chronic diseases and lower frequency of cancerrelated discharges among migrants compared to Chileans [7,14].

As previously mentioned, a high percentage of hospital admissions among immigrants are related to pregnancy, childbirth and puerperium, indicating a high demand for reproductive health services. This could be explained by the feminization of migration in Latin America, where migration of women of childbearing age is high [5]. This focus on reproductive health, together with a lower use of services for chronic diseases, could reflect both the specific needs of a mostly young population of reproductive age and possible barriers in access to preventive and long-term care. This contrasts with the Chilean population, in which chronic diseases have a greater presence, reflected in hospital discharge diagnoses. The data suggest that, although immigrants arrive in the country in relatively good health, their health needs evolve rapidly, posing a challenge to the sustainability of the health system if not adequately managed.

One aspect of interest is the observation on the higher frequency of trauma among foreign males, a situation found in previous studies, linking this report with work-related accidentability [9]. The study of the labor force among international migrants in Chile indicates that, over the decade from 2006 to 2017, the educational and qualification level of this population increased. However, these people work in less qualified sectors and with lower incomes [3]. The authors outline the following as causal factors: the difficulty of validating academic

Table 1. Distribution of hospital discharges by sex and nationality, Chile, 2013 to 2022.

	Total hosp	Total hospital discharges				Chilean ho	Chilean hospital discharges	se		Foreign ho	Foreign hospital discharges	Se	
	Chilean		Foreign			Men		Women		Men		Women	
Year	Number	Percentage (%)	Number	Percentage (%)	Total	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)
2013	1 609 321	99.3	11 753	0.7	1 621 074	636 701	39.6	972 620	60.4	3725	31.7	8028	68.3
2014	1 602 363	99.4	9755	9.0	1 612 118	637 892	39.8	964 471	60.2	2444	25.1	7311	74.9
2015	1618130	99.2	13 046	0.8	1 631 176	650 027	40.2	968 103	59.8	2894	22.2	10 152	77.8
2016	1 586 375	6.86	18 081	1.7	1 604 456	641 586	40.4	944 789	59.6	3808	21.1	14 273	78.9
2017	1 577 780	98.5	24 242	1.5	1 602 022	644 592	40.9	933 188	59.1	4991	20.6	19 251	79.4
2018	1 577 578	97.4	42 872	2.6	1 620 450	652 505	41.4	925 073	58.6	8200	19.1	34 672	80.9
2019	1 575 845	97.1	47 490	2.9	1 623 335	605 309	42.1	912 936	57.9	10 051	21.2	37 439	78.8
2020	1 247 696	96.5	45 230	3.5	1 292 926	531 673	42.6	716 023	57.4	9765	21.6	35 474	78.4
2021	1 376 862	96.2	54 544	3.8	1 431 406	597 314	43.4	779 548	56.6	13 933	25.5	40 611	74.5
2022	1 496 610	96.1	60 924	3.9	1 557 534	637 744	42.6	858 866	57.4	13 663	22.4	47 261	77.6
Total	15 268 560	97.9	327 937	2.1	15 596 497	6 292 943	41.2	8 975 617	58.8	73 474	22.4	254 472	77.6

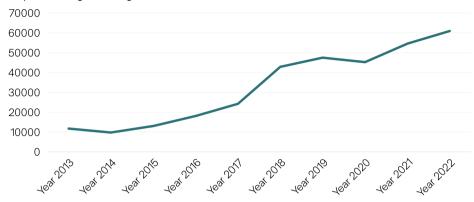
Source: Prepared by the authors of this study.

Table 2. Distribution of the 10 most frequent discharge diagnosis groups by sex and nationality, Chile, 2013 to 2022.

gold pluch to Godes)         Nr         %         Nr         %         Glass of Collection of Codes (Act to Log of Codes)         Nr         %         Nr <th>Cause of discharge</th> <th>Chilean women</th> <th>nen</th> <th>Foreign wome</th> <th>omen</th> <th>Prevalence ratio</th> <th></th> <th>Chilean men</th> <th><b>L</b></th> <th>Foreign men</th> <th>en</th> <th>Prevalence ratio</th> <th></th>	Cause of discharge	Chilean women	nen	Foreign wome	omen	Prevalence ratio		Chilean men	<b>L</b>	Foreign men	en	Prevalence ratio	
Pregnancy, 281371 33.1 175 867 72.7 0.46 (0.46 to 0.46) < 0.001 Does not apply! Desprancy, object to 0.46 (0.46 to 0.46) < 0.001 Does not apply! Despreases of the circulatory system (0.00 to 0.99) Diseases of the circulatory system (1.00 to 1.09) Diseases of the circulatory system and content content content and	group (ICD-10 codes)	°Z	%	°Z	%	(95% CI)	P value <sup>2</sup>	°Z	%	°N	%	Cnilean/Toreigner (95% CI)	P value
Diseases of the (1958) 313 313 4137 117 418 (408 to 428) < 0.001 690 881 13.1 5272 8.4 ctrutuatory system (100 to 199)   Diseases of the (1958) 11 14 13 543 5.6 2.50 (2.48 to 2.52) < 0.002 992 941 18.9 12 151 19.4 o.digestive system (100 to 199)   Diseases of the (1958) 11 14 13 543 5.6 2.50 (2.48 to 2.52) < 0.002 992 941 18.9 12 151 19.4 o.digestive system (100 to 199)   Diseases of the genitorinary system (100 to 199)   Diseases of the (1958) 11 14 12 269 5.1 1.84 (1.83 to 1.86) < 0.003 548 257 10.4 4241 6.8 o.digestive system (100 to 100 t	Pregnancy, childbirth and puerperium (000 to	2 581 371	33.1	175 867	72.7	0.46 (0.46 to 0.46)	< 0.001	Does not ag	pply <sup>3</sup>				
Diseases of the digastive system (WOO to NG9) Diseases of the digastive system (WOO to NG9) Diseases of the mutulous and and mutulous diseases of the left status and some other consequences of a system (LOO to LOO)  Every Contact with health status and some other consequences of conseq	Diseases of the circulatory system (100 to 199)	557 873	7.1	4137	1.7	4.18 (4.08 to 4.28)	< 0.001	690 881	13.1	5272	8.4	1.56 (1.55 to 1.57)	0.001
Diseases of the musuclairy system (Noto to Nos)  Diseases of the musuclairy system of the musuclairy system of the musuclairy system of the system of	 Diseases of the digestive system (K00 to K99)	1 095 811	4	13 543	5.6	2.50 (2.48 to 2.52)	< 0.002	992 941	18.9	12 151	19.4	0.97 (0.97 to 0.98)	0.780
Diseases of the musculoskeletal and connective tissue (Moo to M99)  Easymand connective tissue (Moo to M99)  Easymand connective tissue (Moo to M99)  Easymand connective tissue (Moo to M99)  Endocrine (M99)  Endocrine (Moo	 Diseases of the genitourinary system (N00 to N99)	730 936	9.4	12 269	5.1	1.84 (1.83 to 1.86)	< 0.003	548 257	10.4	4241	6.8	1.53 (1.51 to 1.55)	0.004
Diseases of the feet of 51 301 8.3 4173 1.7 4.88 (4.77 to 5.00) < 0.005 707 617 13.5 5216 8.3 respiratory system (J00 to J99)  Endocrine, 270 204 3.5 2440 a 3.50 (3.36 to 3.64) < 0.006 197 521 3.8 1440 2.3 nutritional and metabolic diseases (F00 to E90)  Factors influencing 283 928 3.6 4879 2 1.80 (1.76 to 1.84) 0.200 207 647 4 2749 4.4 health status and contact with an apoisoning 554 490 7.1 8417 3.5 2.03 (2.01 to 2.05) < 0.001 883 299 16.8 19363 30.9 and some consequences of external causes (500 to 7.1)	Diseases of the musculoskeletal system and connective tissue	387 497	۲۵	3336	4.	3.57 (3.47 to 3.68)	< 0.004	373 834	7.1	3906	6.2	1.15 (1.13 to 1.16)	0.400
Endocrine, nutritional and metabolic diseases (E00 to E90)  Factors influencing 283 928 3.6 4879 2 1.80 (1.76 to 1.84) 0.200 207 647 4 2749 4.4 health status and contact with health care services (Z00 to Z99)1  Trauma, poisoning 554 490 7.1 8417 3.5 2.03 (2.01 to 2.05) < 0.001 883 299 16.8 19363 3.09 and some other consequences of external causes (S00 to T98)  Tumors (neoplasms, 695 845 8.9 12 747 5.3 1.68 (1.67 to 1.69) 0.002 480 026 9.1 5153 8.2	Diseases of the respiratory system (100 to 199)	651 301	8.3	4173	1.7	4.88 (4.77 to 5.00)	< 0.005	707 617	13.5	5216	8.3	1.63 (1.61 to 1.64)	< 0.001
status and twith health riving 283 928 3.6 4879 2 1.80 (1.76 to 1.84) 0.200 207 647 4 2749 4.4 4 status and twith health riving 554 490 7.1 8417 3.5 2.03 (2.01 to 2.05) < 0.001 883 299 16.8 19363 30.9 me other quences of all causes (500 status and cause (500 s	Endocrine, nutritional and metabolic diseases (F00 to F90)	270 204	3.5	2440	Ф	3.50 (3.36 to 3.64)	< 0.006	197 521	8.	1440	2.3	1.65 (1.60 to 1.71)	0.050
me other quences of all causes (500 p.s. of the complex) (2.01 to 2.05) (2.01 to	 Factors influencing health status and contact with health care services (200 to 799)1		3.6	4879	7	1.80 (1.76 to 1.84)	0.200	207 647	4	2749	4. 4	0.91 (0.89 to 0.93)	0.660
pplasms, 695 845 8.9 12 747 5.3 1.68 (1.67 to 1.69) 0.002 480 026 9.1 5153 8.2	 Trauma, poisoning and some other consequences of external causes (500 to T98)		7.1	8417	3.5	2.03 (2.01 to 2.05)	< 0.001	883 299	16.8	19363	30.9	0.54 (0.54 to 0.55)	< 0.001
C00 to D48)	 Tumors (neoplasms, C00 to D48)		8.9	12 747	5.3	1.68 (1.67 to 1.69)	0.002	480 026	1.6	5153	8.2	1.11 (1.10 to 1.12)	0.470

<sup>a</sup>Factors influencing health status and contact with health services" provides the categories Z00-Z09 for those cases in which certain circumstances that are not diseases, injuries or external causes classifiable in categories A00-Y89, are recorded as "diagnoses" or "problems" [12]. <sup>2</sup> Chi-square. <sup>3</sup> No data. Source: Prepared by the authors of this study. ICD-10, International Classification of Diseases, 10th revision. CI, confidence interval.

Figure 2. Evolution of hospital discharges of foreigners, Chile 2013 to 2022.



Source: Prepared by the authors of this study.

Table 3. Distribution of outflows by age group and nationality, Chile, 2013 to 2022.

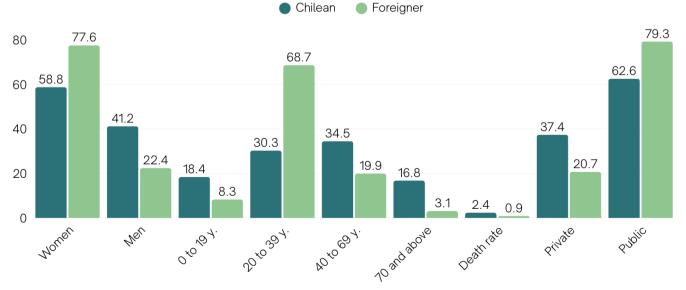
	Chilea	ın	Fore	eign	Prevalence ratio chilean/	
Age group	Number	Percentage (%)	Number	Percentage (%)	foreigner (95% CI)	P valuea
Less than 1 year	691 623	4.5	1095	0.3	13.6 (3.2 to 57.7)	< 0.001
1 to 9	1 063 732	7	9398	2.9	2.4 (2.1 to 2.9)	< 0.001
10 to 19	1 048 500	6.9	16 668	5.1	1.4 (1.2 to 1.5)	0.09
20 to 29	2 239 858	14.7	117 072	35.7	0.4 (0.4 to 0.4)	< 0.001
30 to 39	2 384 112	15.6	108 196	33	0.5 (0.5 to 0.5)	< 0.001
40 to 49	1 698 911	11.1	36 981	11.3	1.0 (0.9 to 1.0)	0.89
50 to 59	1 774 538	11.6	17 462	5.3	2.2 (2.0 to 2.4)	< 0.001
60 to 69	1 805 843	11.8	10 876	3.3	3.6 (3.1 to 4.1)	< 0.001
70 to 79	1 487 703	9.7	6464	2	4.9 (3.9 to 6.3)	< 0.001
80 to 89	879 384	5.8	3095	0.9	6.1 (3.7 to 10.2)	< 0.001
90 and more	194 537	1.3	639	0.2	6.5 (0.5 to 78.4)	0.004
Total	15 268 741	100	327 946	100		

CI, confidence interval.

<sup>a</sup>Chi-square.

Source: Prepared by the authors of this study.

Figure 3. Relative frequency (%) of hospital discharges by sex, age group, and type of hospital in Chileans and foreigners, Chile, 2013 to 2022.



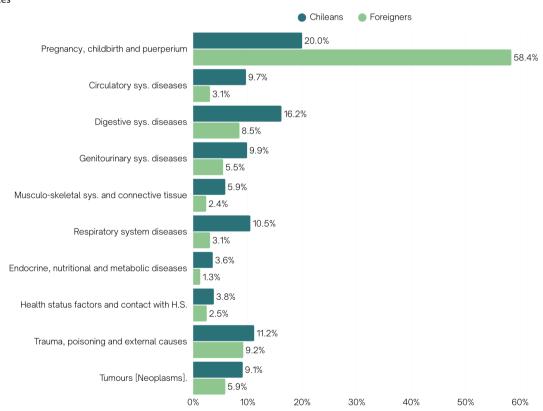
Source: Prepared by the authors of this study.

Table 4. Distribution of hospital discharges by region and nationality. Chile, 2013 to 2022.

	Chile	ean	Forei	gn	
Region	Number	Percentage (%)	Number	Percentage (%)	Total discharges
Tarapacá	228 474	84	43 580	16	272 054
Antofagasta	514 886	93	36 774	7	551 660
Atacama	222 240	99	3091	1	225 331
Coquimbo	517 770	99	3211	1	520 981
Valparaíso	1 621 956	99	11 717	1	1 633 673
O'Higgins	717 437	99	5883	1	723 320
Maule	846 273	99	6538	1	852 811
Biobío	1 603 111	99.6	6650	0.4	1 609 761
Araucanía	948 761	99.7	2463	0.3	951 224
Los Lagos	789 752	99.5	4339	0.5	794 091
Aysén	121 089	100	14	0	121 103
Magallanes	179 465	100	117	0.1	179 582
Región Metropolitana	6 073 704	97	216 635	3	6 290 339
Los Ríos	403 899	99.8	759	0.2	404 658
Arica and Parinacota	70 371	95.7	3144	4.3	73 515
Ñuble	419 641	99.5	2031	0.5	421 672

Source: Prepared by the authors of this study,

Figure 4. Relative frequency (%) of hospital discharges according to diagnostic group in Chileans and foreigners, Chile, 2013 to 2022. Sys, System; H.S, Health services



Source: Prepared by the authors.

degrees and qualifications, as well as a lower capacity for quotas in the productive sectors [3]. This study identifies differences between Chilean and foreign workers. The duration of formal jobs is shorter for foreigners, and they also tend to work more hours per week than nationals [3]. Other factors that lead to greater labor vulnerability are discrimination, language

limitations, informality, and overeducation, among others [15]. Several studies relate aspects of labor vulnerability in migrants with health effects, demonstrating the need for public policies on occupational safety to reduce occupational risks in migrants [15–17].

The profile of hospital discharges reflects, in some way, the health status of the population. The differences found between foreigners and nationals suggest that migrants are younger and healthier than nationals. International evidence suggests that, in addition to having the intention to migrate, one must possess sufficient physical capacities to undertake the migratory process. Thus, based on the hypotheses of "natural selection", age structure differences (younger migrant population than the local population) and lack of information on the part of immigrants who may be in worse health situations, we can affirm that empirical studies have repeatedly recognized the so-called "healthy migrant effect" [18]. This phenomenon is related to lower self-reporting of health problems and even lower prevalence of chronic diseases compared to the local population. Despite this phenomenon, some studies indicate that immigrants are more likely to become ill and die in the immediate post-migration period than individuals from the receiving country.

Furthermore, the effect of the healthy migrant disappears, on average, after 10 to 20 years in the receiving country. This period may decrease in the case of immigrants who are in a situation of socioeconomic vulnerability and who experience poverty, discrimination, lack of social and health protection, labor and spatial social exclusion, among other manifestations [5,10]. The above could lead to a change in the characteristics of migrant hospitalizations as the time of residence in our country elapses, this being modulated by the conditions of vulnerability of this population group.

In general terms, the growth of the immigrant population has led to a greater demand for hospital resources, making visible the need for adjustments in the planning and allocation of resources in the most affected regions [4,19]. Although the number of hospital admissions of immigrants has increased significantly in the last decade, these show a concentration in reproductive diagnoses and a lower proportion of admissions for chronic diseases and hospital mortality, compared to that observed in the Chilean population. This could suggest that the newly arrived immigrants, for the most part, may be young and in better general health. However, this rapid growth has also increased pressure on health resources, implying that the Chilean health system faces several challenges.

One of the main challenges is the response capacity of an already deficient hospital infrastructure, especially in the northern regions of the country, where there is a high concentration of immigrants. In addition, migration raises the need to improve the training of healthcare personnel in intercultural care, as the cultural and linguistic diversity of the immigrant population can make it challenging to provide efficient and culturally appropriate healthcare services [20]. Another significant challenge is the integration of immigrants into the public health system, particularly for those who lack documentation or a regularized immigration status. This limits their access to health care and can lead to untreated health problems that worsen over time. Finally, the planning and

equitable distribution of financial and human resources is a constant challenge, as the system must adapt quickly to demographic changes and ensure that both the immigrant and local populations receive quality healthcare without affecting the sustainability of the healthcare system.

The study has the strength of having analyzed all hospital discharges in Chile over a decade, obtained from an official and reliable source, such as the Department of Health Statistics and Information. Therefore, no biases that could invalidate the results obtained can be glimpsed. Likewise, the published information is updated, including the two years of the COVID-19 pandemic (2020 and 2021) and one year after this event (2022). The study highlights the limitations inherent in analyzing routinely collected data. First, the database of hospital discharges has a limited number of variables, which do not allow us to delve into the social characteristics of the people who are hospitalized, such as legal status (in the case of migrants), educational level, public health insurance coverage (National Health Fund, groups A, B, C or D), employment status or occupation, among other social factors. Nor is it possible to delve into the procedures or therapies that each hospitalized person has received, or the costs involved in each hospitalization. Likewise, since this is a record of discharges, the same person may have been registered more than once during the period studied. This implies that the figures reported give an idea of the general characteristics of hospitalizations, but cannot be extrapolated as rates to specific population groups.

On the other hand, the records of hospital discharges reflect those cases of morbidity that were hospitalized, without incorporating all the care provided in open care facilities (emergency consultations and morbidity at the primary level, secondary level or private system). Despite the limitations mentioned above, the study makes a contribution, considering that previous studies date back to the previous decade (2012) [9,10]. The limited evidence available suggests that further research on the subject is warranted.

# **CONCLUSION**

According to the information presented here, the results are of interest for the formulation of inclusive health policies, especially in the regions of Tarapacá, Arica, and Parinacota, as well as the Metropolitan region. Along these lines, we propose some ideas for public policies to be recommended for the healthcare of the migrant population.

Firstly, it is essential to maintain and facilitate access to the public health system, as it is the primary system used by migrants. This can be achieved by expanding access routes and reducing administrative obstacles.

In addition, it is necessary to strengthen primary care and emergency care in the municipalities with the highest concentration of foreigners, adjusting the per capita and promoting integration through cultural mediators.

Likewise, specific sexual and reproductive health programs should be developed in these regions, together with child

care, for migrant women and families, given that most hospital admissions are due to reproductive causes. Additionally, there is a higher proportion of hospital admissions in the pediatric population compared to the Chilean population.

Similarly, it is necessary to incorporate migrants into the systems of surveillance and prevention of occupational accidents and diseases, due to the high frequency of traumatisms in young male migrants, probably associated with precarious working conditions.

Finally, it is necessary to strengthen hospital management with a focus on migrants, incorporating intercultural training programs, maintaining the migratory variable in registration systems, and incorporating clinical audits to identify barriers to care and opportunities for improvement in the health care of migrants.

All these policies require accompanying resources, both financial and human, that facilitate their implementation and integration of interculturality into healthcare.

**Contributor roles** JH: conceptualization, data curation, formal analysis, research, software and writing original draft. JH and MR-S: methodology and visualization. MR-S: supervision, review and editing.

**Acknowledgments** To the geographer Juan Correa Parra for his contribution to the design of the map of Chile (Figure 1).

Competing interests The authors declare that they have no conflicts of interest related to this study.

**Funding** The study is the result of a Master's Thesis in Public Health and was not funded.

Peer review and provenance Unsolicited. With external peer review by two peer reviewers, and with statistical review by the journal's statistical editor. The peer review was performed in double anonymous mode.

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# Comparación del perfil de egresos hospitalarios entre nacionales y migrantes internacionales: una década de contrastes y desafíos sanitarios para Chile (2013 a 2022)

# **RESUMEN**

**INTRODUCCIÓN** La migración es un reconocido determinante social en el mundo. Chile ha experimentado un abrupto aumento de inmigración en los últimos años, demandando, entre otros, servicios de atención de salud. El objetivo del estudio es comparar el perfil de egresos hospitalarios entre nacionales y migrantes en Chile.

**MÉTODOS** Se realizó un estudio observacional con datos rutinariamente recolectados, analizando la base de datos de egresos hospitalarios del Ministerio de Salud en la década comprendida entre los años 2013 y 2022.

**RESULTADOS** Se produjeron 16 013 995 egresos (95% chilenos, 2% extranjeros y 3% sin información). Los egresos de extranjeros presentan un alza mantenida, aumentado seis veces en la década (de 0,7% a casi 4%) y con mayores proporciones en el norte del país. Existen diferencias significativas en la distribución por sexo (chilenos: 41,2% hombres y 58,8% mujeres; extranjeros: 22,4% hombres y 77,6% mujeres). Según edad, en ambas poblaciones la mayor frecuencia de egresos ocurrió entre los 20 y 39 años (30,3% en chilenos y 68,7% en extranjeros). El resultado de fallecimiento al egreso ocurrió en 2,4% de chilenos y 0,9% de extranjeros. El diagnóstico de egreso más frecuente fue el grupo embarazo, parto y puerperio, con diferencias significativas (20% chilenos y 58,5% extranjeros). Los chilenos presentan mayor proporción de diagnósticos cardiovasculares (12,1% versus 7,5%) y de enfermedades respiratorias (13,2 versus 7,5%), mientras que en extranjeros hay mayor proporción del grupo de traumatismos, envenenamientos y otras causas externas (13,9% chilenos versus 22,1% extranjeros).

**CONCLUSIONES** El crecimiento de la población inmigrante ha aumentado la demanda de recursos hospitalarios, exigiendo ajustes en la planificación y asignación de recursos. Se sugiere enfocar políticas inclusivas hacia la priorización de la atención materno infantil y prevención de accidentes y traumatismos en migrantes.



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