

Free clinic utilisation by immigrants after the introduction of a restrictive health policy in the Basque Country (Spain)

Authors and affiliation:

Iratxe Pérez-Urdiales*¹

Miguel San Sebastián^{1,2}

Isabel Goicolea²

¹*Department of Nursing I, University of the Basque Country (UPV/EHU), Biscay, Spain*

²*Department of Public Health and Clinical Medicine, Umeå University, Umeå, Sweden*

***Corresponding author:**

Iratxe Pérez-Urdiales

Department of Nursing I

University of the Basque Country (UPV/EHU)

Barrio Sarriena S/N Biscay

Spain

Tel: +34 94 601 8338

E-mail: iratxe.perez@ehu.eus

Abstract

Objectives Policies restricting healthcare access for immigrants were applied in times of public money reduction on welfare conditions in Spain. This study aimed to assess the impact of the implementation of a more restrictive health policy in the Basque Country region, Decree 114/2012, on the number of consultations attended at a free clinic.

Study Design Interrupted time series.

Methods A negative binomial regression model was applied in two phases to the number of healthcare consultations attended during the period 2007 to 2017 (n=9,272) to estimate the level and trend changes associated with the implementation of the policy. Data were analysed separately by sex and adjusted for Biscay province's unemployment rate and seasonality of the consultations as confounding factors.

Results Different trends of attendance between men and women were observed during the whole period, constituting 76.94% and 23.06% of all consultations, respectively. After the implementation of the decree, the number of consultations for women per trimester decreased and increased for men by 1% although it was not statistically significant in either of the trends.

Conclusions No clear relationship between the implementation of the Basque Decree 114/2012 and an increase in the attendance of immigrants in a free clinic during the studied period was found.

Keywords free clinic; undocumented immigrants; health policy; healthcare access; migrant

Introduction

Although the European Social Charter of 1996 commits to the protection of medical assistance for anyone without adequate resources,¹ there are no common norms for European Union (EU) member states regarding entitlement to healthcare.² Moreover, countries implement different legal conditions of access to healthcare for nationals and for foreign origin populations, such as immigrants or asylum seekers,³⁻⁶ sometimes leaving responsibility for their healthcare to non-profit free clinics.⁷⁻¹⁰

In recent years, the number of immigrants in the EU has consistently increased. In 2008, there were 19.5 million nationals of non EU-27 countries residing within the EU¹¹ and at 1 January 2016, the number of people living in the EU-28 who had been born outside of the EU was 35.1 million.¹² As it happens in other contexts, no official figures exist about how many undocumented immigrants could be residing in Europe or on each country, which represents a challenge for healthcare providers and policy makers.¹³ The definition for undocumented immigrant given by the International Organization for Migration is “*A non-national who enters or stays in a country without the appropriate documentation*”.¹⁴

In Spain, by January 2016, 9.89% of the population was represented by registered immigrants.¹⁵ Since the year 1986, healthcare within the National Health System (NHS) was provided to any person, regardless of nationality, on condition of being residing in Spain.¹⁶ However, in April 2012, the Spanish government enacted the Royal Decree-Law 16/2012 of 20 April on urgent measures to ensure the sustainability of the NHS and improve its quality and safety (RDL 16/2012).¹⁷

Following RDL 16/2012, a number of measures were taken. Among others, by April 2013, the individual healthcare cards - the document that entitles individuals to healthcare access throughout the NHS¹⁸ - of at least 873,000 undocumented immigrants were cancelled.¹⁹ The European Committee of Social Rights and different Special Rapporteurs from United Nations expressed their concern about the impact of the RDL 16/2012 on migrants' health²⁰. Full healthcare assistance is currently recognised for legal residents in Spain and for those who have an insured status, mainly obtained as a contributor to the Social Security System.^{17,21} Even though asylum seekers can get full

healthcare assistance, undocumented immigrants can not. However, healthcare assistance for special situations was recognised to any person in case of emergency, antenatal, delivery and postnatal care, and being a minor.

Since the NHS in Spain is decentralised, meaning that is configured as a coordinated set of health services from the Central Government Administration and its 17 autonomous regions, which have their own public healthcare system,^{22,23} RDL 16/2012 was applied in different ways. In the autonomous region of the Basque Country, Decree 114/2012 of 26 June was launched to regulate access to the Basque public healthcare system for those people excluded from healthcare assistance in the Spanish NHS.²⁴ However, it was judicially retained until December 2012, when the Constitutional Court gave partial legal permission to apply it.²⁵

Even if the Basque Decree was more permissive than the RDL 16/2012 in terms of undocumented immigrants' access to the public healthcare system, it was more restrictive for both documented and undocumented than the previous legislation, as the main requirement to access changed from three months to one year of consecutive municipality registration.²⁴ In addition to healthcare assistance for special situations stated in RDL 16/2012, other governmental instructions were launched to extend assistance to any person in the case of serious chronic and mental illnesses and infectious diseases that may become a public health threat if left untreated.²⁶

The findings in the literature about immigrants' utilisation of healthcare in Spain varies, based on immigrant origin and the type of health service.²⁷ For instance, a recent review showed that, in general, the immigrant population uses the emergency services more than Spanish-born residents and specialised care less. However, the results were diverse regarding the use of primary care services, depending on the country of origin, gender and the autonomous region in which it was measured.²⁸

The financial crisis which has recently affected the industrialized countries has negatively influenced the health of local and immigrant population.^{7,29,30} In addition, immigrant populations face diverse barriers to accessing healthcare, mostly related to the policy arena, the healthcare system bureaucracy, professionals' behaviour and

characteristics of the immigrants themselves.^{30,31} Because of social vulnerability and poorer living conditions of undocumented immigrants, other barriers as lack of awareness about entitlement to health care, fear of being reported to the police and poor language skills affect them more.³² Therefore, immigrants without access to public healthcare services use different health-seeking strategies, such as self-medication, borrowing insurance cards, delaying the use of healthcare until they feel very sick and use of alternative health services.^{3,33,34}

To compensate the disadvantaged healthcare situation of undocumented immigrants, in many European countries, there are free clinics where healthcare professionals at Non-Governmental Organisations (NGOs) provide healthcare.^{8-10,33,34} A free health clinic is defined as “*a private, non-for-profit, community-based organization that offers services such as primary and secondary medical and dental care [...] These services are offered for no cost or a small fee to low income, uninsured, or underinsured people*”.¹⁰ Free clinics play a primary role in the fulfilment of the right to the highest attainable standard of health for those people excluded from public healthcare systems.³³

Based on the hypothesis that more difficulty in accessing the public healthcare system means more use of the available non-profit free clinics, the objective of this study was to assess the impact of the application of the Basque Decree 114/2012 on the number of consultations attended at a free clinic using institution-based retrospective data.

Setting

Registered immigrants represented 8.6% of the whole population of the Basque Country by January 2016, of which 48.61% resided in the province of Biscay.³⁵ A non-profit free clinic, called CASSIN (Centre for Social and Health Attention for Immigrants), started in 1997 in the city with the highest number of immigrants in the autonomous region, Bilbao. It is managed by the NGO, Médicos del Mundo-Euskadi (Doctors of the World-Basque Country).

As for free clinics, the purpose of CASSIN is “*ensuring access to health care by providing a safety net for underserved populations with the aim of ultimately decreasing health disparities among people of different socioeconomic statuses*”,¹⁰ providing no-

cost primary healthcare and social services. The criteria to attend CASSIN are lack of legal access to the public healthcare system and being more than 18 years old. Even if most of the patients at the free clinic are undocumented, it is not an indispensable requirement to receive attention.

At CASSIN, between 700 and 1,000 healthcare consultations are attended per year. Healthcare is provided by thirteen voluntary doctors and seven voluntary nurses two days per week, two and a half hours per day. Healthcare services include disease monitoring, blood tests, prescriptions, HIV tests, wound-treating, and attention to acute and chronic health problems. Legal information and advice related to access to the public healthcare system is provided by social workers during the same hours as the health consultations. They also gather and report right to health violations to the competent institutions, using them as tools to influence politically regarding the right to health of immigrant populations.

Methods

Data collection

At CASSIN, patients' personal and medical data are recorded on paper registration forms during the health consultation and then transferred into the database every month. The number of healthcare consultations per trimester attended from 1 January 2007 to 30 June 2017 was directly counted from registration sheets and compared with the data in the database. Where differences in numbers existed, the figure extracted from the manual counting was taken into account for the analysis.

Data analysis

Data on the number of health consultations attended during the period 2007 to 2017 was extracted into an Excel spreadsheet on a quarterly basis and exported to Stata software for analysis. Frequencies for total and new patient consultations, country of origin and diagnosis were considered, stratified by sex.

The period was subdivided into two phases. The pre-intervention phase represented the period of the previous law ruling regarding access of immigrants to public healthcare services (January 2007 to December 2012) and the post-intervention phase included the period of application of Decree 114/2012 (January 2013 to June 2017). The intervention period was defined as the time in which Decree 114/2012 was launched and applied (January 2013 to March 2013).

The data was adjusted for Biscay province's unemployment rate and for seasonality. The unemployment rate was applied to represent the possible influence of the financial crisis on the number of immigrants arriving to the free clinic. The seasonality captured the summer holiday period (3rd trimester), when the number of consultation days clearly decrease. The seasonality factor was codified as 1 for the third trimester of each year to capture the summer holiday period, when the number of consultation days decrease, and as 0 for the rest of the year trimesters.

Data was analysed using negative binomial regression, which can be represented as the equation: $Y_t = \beta_0 + \beta_1 \text{ pre-intervention} + \beta_2 \text{ intervention} + \beta_3 \text{ post-intervention} + \varepsilon$ Y represents the outcome variable (number of health consultations); β_0 is the baseline level of the outcome at the

beginning of the period; β_1 estimates the structural trend in the outcome before the intervention; β_2 estimates the immediate impact of the intervention through the change in level of the outcome just after the intervention and β_3 reflects the change in the trend of the outcome after the intervention.

The intervention variable was coded as 0 for the pre-intervention time and the beginning of the implementation period (first trimester of 2013) and as 1 onwards. The post-intervention variable was coded as 0 up to the last point of the pre-intervention and coded as 1 onwards sequentially after the intervention started.

Since the outcome was a count and did not follow normality assumptions, a Poisson regression model was first carried out. Initial analysis suggested that the model did not fit well the data, so a more flexible negative binomial model was used for all analyses. Robust standard errors for the parameters to control for mild violations of underlying assumptions were calculated. Rate ratios (RR) and the 95% confidence intervals (95% CI) were obtained using the Stata 13.0 software.

Results

A total of 9,272 health consultations were attended in the whole period, 76.94% corresponding to men and 23.06% to women. More women (49.58%) attended the clinic for the first time during the whole period compared to men (40.03%). In the database, age and nationality data was only provided for new patients and those patients who were at follow-up, representing a total of 4,707 people.

Age distribution changed depending on the sex of the patients: for men, 28.98% were 18 to 24 years old, 70.24% from 25 to 64 and 0.78% were 65 or more, while for women these figures were 15.11%, 81.36% and 3.53%, respectively (Table 1). By regions of origin, important differences between men and women were found: 54.34% of men and 18.06% of women were originally from North Africa, while most women (56.55%) and few men (7.04%) came from Latin America (Table 1).

Among men, the most prevalent diagnoses were related to the respiratory system, followed by digestive, musculoskeletal and tegumentary systems. Among women, the most frequent diagnoses were related to the genitourinary system, followed in a similar proportion by the respiratory, digestive and musculoskeletal systems (Table 1).

Trends in attendance for men

The total number of men attending in the whole period was 7,134. The data showed a pronounced rise in male users from the beginning of the period to the second semester of 2011, when a sharp decrease occurred until the beginning of 2013. However, there was a rise in the number of men attending, remaining constant after the intervention and until the end of the period (Figure 1).

The baseline level on the number of consultations was 193.23 at the beginning of the period among men. Adjusted for seasonality and unemployment rate, there was a not a significant change in the trend of consultations from one trimester to the next during the pre-intervention period (RR=0.99; 95% CI=0.98, 1.02). The level of the number of consultations decreased significantly by 33% per trimester in the immediate intervention period, but the trend of consultations experienced an insignificant increase

of 1% per trimester in the post-intervention period (RR=1.01; 95% CI=0.99, 1.03) (Table 2).

Trends in attendance for women

The number of women attending in the whole period was 2,138. There was a constant decrease in the number of women attending from the beginning of the period until 2011, with a period of stabilisation between 2011 and 2012, remaining in a stable pattern until the end of the period (Figure 2).

The baseline level on the number of consultations of women was 44.92 at the beginning of the period. Overall, after adjustment for seasonality and unemployment rate, there was a significant trend decrease of 2% (RR=0.98; 95% CI=0.95, 0.99) in their attendance per trimester during the pre-intervention period. The level of the number of consultations increased significantly by 189% in the trimester just after the intervention, but it was followed by a statistically insignificant decrease of 1% in the attendance trend (RR=0.99; 95% CI=0.97, 1.03) per trimester in the post-intervention period (Table 2).

Discussion

The study's findings do not support a clear relationship between the implementation of the Basque Decree 114/2012 and an increase in the attendance by immigrant population at a free clinic in the studied period, as other factors besides the policy change could also help explaining the found trends.

Different trends of attendance as well as gender and country of origin patterns between men and women were observed over the whole period. In addition, an overall decrease in the number of consultations for women and an increase for men was found after the application of the new Decree, though being statistically not significant in either of the trends. Because of the lack of data on the numbers of undocumented immigrants, demographic reasons explaining these trends could not be contrasted.

In general, a high number of male consultations compared to women were observed, as they represent the 76.94% of the total. This pattern has also been reported in a study conducted in five social-based free clinics in Paris in 2008, where 65% of the total patients were men.⁹ However, in a free clinic in Berlin and the United States of America, respectively 60% and 56% of attending patients were women.^{10,34} While most of the patients in Paris and Berlin were undocumented, the profile of users in the United States was reported as being "*typically low-income, uninsured and female*".³⁶ Only the study of Berlin provides an explanation for this gender distribution: the clinic was quite specialised in prenatal care as well as the high representation of undocumented immigrant women in the labour and prostitution market of the city.³⁴

The reasons for the excess number of male consultations in our study are not clear. From 2006 to 2016, the proportion between the sexes among registered immigrants in Bilbao, Biscay and Basque Country as a whole is close to 50%³⁵ so the difference in attendance at CASSIN could not be explained by the highest presence of male registered immigrants. However, official figures of undocumented immigrants do not currently exist and the majority of patients at CASSIN were not included in the municipality register. Another explanation regarding the lower number of female patients arriving at CASSIN could be related to the existence in Bilbao of three other free clinics, exclusively for sexual and reproductive health, where all women, regardless

of their legal status can attend. For instance, in 2014, 517 immigrant women attended the most popular clinic among immigrants. There is not available data for the rest of the clinics. The data on country of origin from the municipality register of Bilbao coincides with those from the free clinic patients: in 2014, 71.84% of registered immigrants from Magreb were men while 61.59% of the immigrants originally from Latin America were women.³⁷

After the intervention, a not significant small increase in the number of attendances at the free clinic among men was observed. This trend could reflect that not many undocumented immigrant men left the region because of lack of employment due to the economic crisis, as also a slight decrease on of registered immigrant men occurred from 2012 to 2015 in the Basque Country. In the case of women, an increasing trend in the number of registered immigrant women in the Basque Country was maintained year by year.³⁵ Women could have also remained in the region, or an influx of undocumented women coming from other Spanish regions could also have happened, even if they did not attend CASSIN.

Limitations of this study

The new policy implementation could not be the only explanation for the trend changes in the number of consultations, but the interaction with other external factors that also happened during the same period, such as the economic crisis and the change in migration patterns. Because of the absence of reliable data on undocumented immigrants, this last factor could not be taken into consideration.

Conclusion

This study's findings showed different trends of attendance between men and women during the whole period and the fact that after the application of the Decree 114/2012, there was an overall not significant increase in the number of consultations for men and a decrease for women. Because of the unavailability of data on undocumented immigrants, reasons for the trend change could not be thoroughly explained. Data from the sexual and reproductive health free clinics should be collected to obtain a realistic picture of immigrant women's attendance after the Basque Decree.

Due to the high number of consultation attended per year, free clinics are important actors in ensuring the right to health for those who are at risk of social exclusion, such as undocumented immigrants. Furthermore, they are able to identify cases which could become a public health threat if left untreated.

Continuous monitoring of health policies and their influence on underserved populations' health should be further studied and considered by policymakers in order to better protect the right to health and healthcare of vulnerable social groups.

Acknowledgements

The authors want to thank the NGO Doctors of the World-Basque Country and the volunteer professionals working at the free clinic for gathering and sharing the data.

Funding

The authors received no specific funding for this work.

Conflicts of interest

The authors declare that they have no conflict of interest.

Ethical approval

The study received ethical approval from the Ethics committee for research involving human subjects of the University of the Basque Country (UPV/EHU). Written permission and login credentials to access the registration forms and the database were requested to and given by the institution Doctors of the World-Basque Country direction board. Extracted data was anonymised prior to analysis.

References

1. Council of Europe. *European Social Charter (Revised)*. European Treaty Series; No.163. 1996
2. Mladovsky P, Rechel B, Ingleby D *et al*. Responding to diversity: an exploratory study of migrant health policies in Europe. *Health Policy* 2012;**105**:1–9.
3. Woodward A, Howard N, Wolffers I. Health and access to care for undocumented migrants living in the European Union: a scoping review. *Health Policy Plan* 2014;**29**:818–30.
4. Médecins du Monde. Access to health care for vulnerable groups in the European Union in 2012. An overview of the condition of persons excluded from healthcare systems in the EU. 2012
5. Suess A, Ruiz Pérez I, Ruiz Azarola A *et al*. The right of access to health care for undocumented migrants: a revision of comparative analysis in the European context. *Eur J Public Health* 2014;**24**:712–20.
6. Schneider C, Joos S, Bozorgmehr K. Disparities in health and access to healthcare between asylum seekers and residents in Germany: a population-based cross-sectional feasibility study. *BMJ Open* 2015;**5**:8784.
7. Keygnaert I, Guieu A, Ooms G *et al*. Sexual and reproductive health of migrants: Does the EU care? *Health Policy*. 2014;**114**:215–25.
8. Parizot I, Chauvin P. The access to care of underserved populations: a research among free clinics patients in the Paris area. *Rev Epidemiol Santé Publique* 2003;**51**:577–88
9. Kaoutar B, Gatin B, de Champs-Leger H *et al*. Socio-demographic characteristics and health status of patients at a free-of-charge outpatient clinic in Paris. *La Rev médecine interne* 2014;**35**:709–14.
10. Notaro SJ, Khan M, Bryan N *et al*. Analysis of the demographic characteristics and medical conditions of the uninsured utilizing a free clinic. *J Community Health* 2012;**37**:501–6.
11. European Migration Network: Annual Report on Migration and International Protection Statistics 2008. 2011. Available from: http://emn.ie/cat_publication_detail.jsp?clog=1&itemID=361&t=6 (19 October 2017, date last accessed)
12. Eurostat. Migration and migrant population statistics 2016. 2016. Available from: http://ec.europa.eu/eurostat/statistics-explained/index.php/Migration_and_migrant_population_statistics (19 October 2017, date last accessed)
13. Hilfinger Messias DK, McEwen MM, Clark L. The impact and implications of undocumented immigration on individual and collective health in the United States. *Nurs Outlook* 2016;**63**:86–94.
14. International Organization for Migration. Glossary on migration. 2nd edition. Geneva; 2011.
15. Spanish Statistical Office. Población extranjera por nacionalidad y sexo. 2016. Available from: <http://www.ine.es/jaxi/Tabla.htm?path=/t20/e245/p04/provi/10/&file=0ccaa002.px&L=0> (22 June 2017, date last accessed)

16. Government of Spain. Ley 14/1986, de 25 de abril, General de Sanidad. Boletín Oficial del Estado 102, de 29 de abril de 1986
17. Government of Spain. Real Decreto-ley 16/2012, de 20 de abril, de medidas urgentes para garantizar la sostenibilidad del Sistema Nacional de Salud y mejorar la calidad y seguridad de sus prestaciones. Boletín Oficial del Estado 98, de 24 de abril de 2012
18. Government of Spain. Real Decreto 702/2013, de 20 de septiembre, por el que se modifica el Real Decreto 183/2004, de 30 de enero, por el que se regula la tarjeta sanitaria individual. Boletín Oficial del Estado 238, de 4 de octubre de 2013
19. Government of Spain. Programa Nacional de Reformas de España 2013. Available from: http://www.empleo.gob.es/es/sec_trabajo/analisis-mercado-trabajo/pnr/index.htm (14 April 2016, date last accessed)
20. International Amnesty. Sin tarjeta, no hay derecho. Impacto en derechos humanos de la reforma sanitaria en Castilla-La Mancha y en la Comunitat Valenciana. 2015
21. Government of Spain. Real Decreto 1192/2012, de 3 de agosto, por el que se regula la condición de asegurado y de beneficiario a efectos de la asistencia sanitaria en España, con cargo a fondos públicos, a través del Sistema Nacional de Salud. Boletín Oficial del estado 186, de 4 de agosto de 2012
22. Government of Spain. Real Decreto 1030/2006, de 15 de septiembre, por el que se establece la cartera de servicios comunes del Sistema Nacional de Salud y el procedimiento para su actualización. Boletín Oficial del estado 222, de 16 de septiembre de 2006
23. Government of Spain. Ley 16/2003, de 28 de mayo, de cohesión y calidad del Sistema Nacional de Salud. Boletín Oficial del Estado 128, de 29 de mayo de 2003
24. Basque Government. Decreto 114/2012, de 26 de junio, sobre régimen de las prestaciones sanitarias del Sistema Nacional de Salud en el ámbito de la Comunidad Autónoma de Euskadi. Boletín Oficial del País Vasco 127, de 29 de junio de 2012
25. Constitutional Court of Spain. Auto 239/2012, de 12 de diciembre de 2012. Available from: <http://www.tribunalconstitucional.es/es/jurisprudencia/Paginas/Auto.aspx?cod=23581> (30 June 2016, date last accessed)
26. Basque Government. Orden de 4 de julio de 2013, del Consejero de Salud, por la que se establece el procedimiento para el reconocimiento de la asistencia sanitaria en la Comunidad Autónoma de Euskadi a las personas que no tienen la condición de aseguradas ni de beneficiarias. Boletín Oficial del País Vasco 139, de 22 de julio de 2013
27. Malmusi D, Ortiz-Barreda G. Desigualdades sociales en salud en poblaciones inmigradas en España: revisión de la literatura. *Rev Esp Salud Publica* 2014;**88**:687–701.
28. Llop-Gironés A, Vargas Lorenzo I, Garcia-Subirats I *et al.* Acceso a los servicios de salud de la población inmigrante en España. *Rev Esp Salud Publica* 2014;**88**:715–34.
29. Gotsens M, Malmusi D, Villarroel N *et al.* Health inequality between immigrants and natives in

- Spain: the loss of the healthy immigrant effect in times of economic crisis. *Eur J Public Health* 2015;**25**:923–9.
30. Vázquez ML, Vargas I, Aller MB. Reflexiones sobre el impacto de la crisis en la salud y la atención sanitaria de la población inmigrante. Informe SESPAS 2014. *Gac Sanit* 2014;**28**:142–6.
31. Hacker K, Anies M, Folb BL *et al.* Barriers to health care for undocumented immigrants: a literature review. *Risk Manag Healthc Policy* 2015;**8**:175–83.
32. Kvamme E, Ytrehus S. Barriers to health care access among undocumented migrant women in Norway. *Soc Heal Vulnerability* 2015;**6**:28668
33. Biswas D, Kristiansen M, Krasnik A *et al.* Access to healthcare and alternative health-seeking strategies among undocumented migrants in Denmark. *BMC Public Health* 2011;**11**:560.
34. Castañeda H. Illegality as risk factor: A survey of unauthorized migrant patients in a Berlin clinic. *Soc Sci Med* 2009;**68**:1552–60.
35. Basque Observatory for Immigration. 2017. Available from: <http://www.ikuspegi.eus/es/estadisticas/estadisticas.php> (20 October 2017, date last accessed)
36. Keis RM, DeGeus LG, Cashman S, Savageau J. Characteristics of patients at three free clinics. *J Health Care Poor Underserved* 2004;**15**:603–17
37. Bilbao Council. Inmigración extranjera en Bilbao 2014. 2014. Available from: http://www.bilbao.net/cs/Satellite?cid=3000062046&language=es&pageid=3000062046&pagename=Bilbaonet%2FPPage%2FBIO_contenidoFinal (16 April 2016 , date last accessed)

Tables and figures

Table 1. Characteristics and diagnoses of the patients at CASSIN from January 2007 to June 2017

	Men	Women
Patients		
Total	7134 (76.94%)	2138 (23.06%)
Attending first time	40.03%	49.58%
Regions		
Latin-America	7.04%	56.55%
North Africa	54.34%	18.06%
Eastern Europe	3.22%	7.32%
Asia	2.65%	0.57%
Rest of the world	1.67%	0.49%
Diagnoses		
Respiratory system	18.43%	10.10%
Digestive system	14.31%	10.16%
Tegumentary system	13.08%	6.57%
Musculoskeletal system	14.68%	10.53%
Genitourinary system	2.90%	14.73%
Others	36.60%	47.90%

Table 2. Segmented negative binomial regression results expressed as rate ratios (95% CI in brackets) of the number of consultations at CASSIN by sex from January 2007 to June 2017

	Baseline level	Pre-intervention	Intervention	Post-intervention
Men	193.23 (147.58, 253.01)	0.99 (0.98, 1.02)	0.65 (0.46, 0.91)	1.01 (0.99, 1.02)
	205.15 (130.37, 322.87) ^a	1.02 (0.99, 1.04) ^a	0.60 (0.42, 0.84) ^a	1.01 (0.99, 1.03) ^a
Women	44.92 (34.35, 58.74)	0.98 (0.96, 1.00)	2.64 (1.78, 3.91)	1.00 (0.99, 1.02)
	56.99 (30.18, 107.64) ^a	0.98 (0.95, 1.01) ^a	2.87 (1.80, 4.58) ^a	0.99 (0.96, 1.04) ^a

^a adjusted for unemployment and seasonality

Figure 1: Number of consultations of men at CASSIN from January 2007 to June 2017 by trimesters

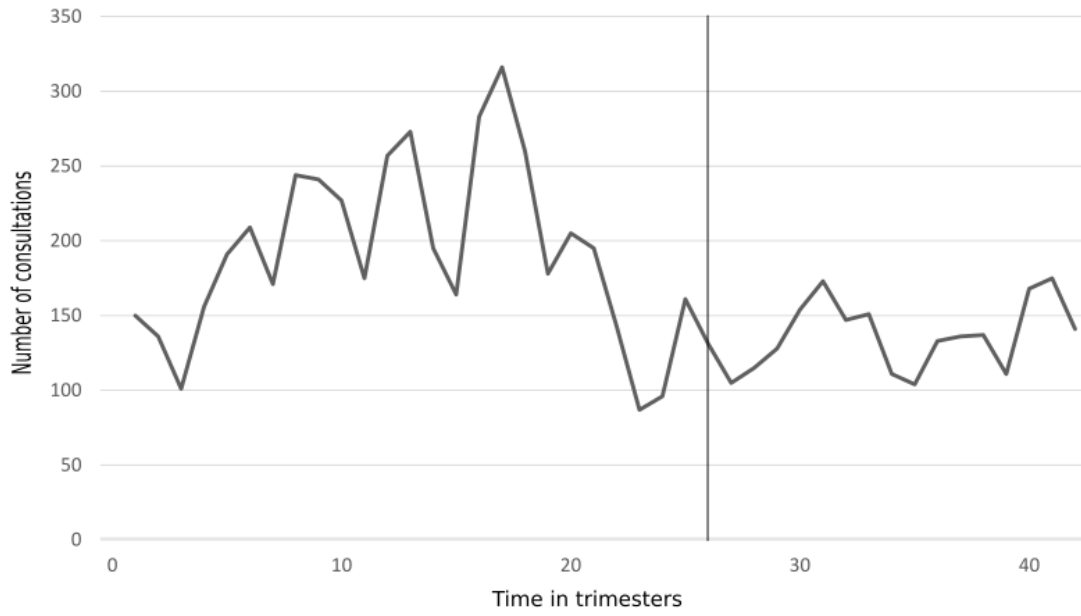


Figure 2: Number of consultations of women at CASSIN from January 2007 to June 2017 by trimesters

