

# Migration of Spanish nurses 2009–2014. Underemployment and surplus production of Spanish nurses and mobility among Spanish registered nurses: A case study



Paola Galbany-Estragués<sup>a,b,\*</sup>, Sioban Nelson<sup>c</sup>

<sup>a</sup> Postdoctoral Fellow, Lawrence S. Bloomberg Faculty of Nursing, University of Toronto, 155 College Street, Toronto, ON, Canada M5T 1P8

<sup>b</sup> Department of Nursing, Faculty of Medicine, Univ Autònoma de Barcelona, Bellaterra 08193, Barcelona, Spain

<sup>c</sup> University of Toronto, 27 King's College Circle, Toronto, ON, Canada M5S 1A1

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## ABSTRACT

**Background:** After the financial crisis of 2008, increasing numbers of nurses from Spain are going abroad to work.

**Objectives:** To examine the health and workforce policy trends in Spain between 2009 and 2014 and to analyze their correlation with the migration of nurses.

**Design:** Single embedded case study.

**Data sources:** We examined data published by: Health Statistics, Organization for Economic Cooperation and Development (1996 to 2013); Ministry of Education, Culture and Sports (2006 to 2013); Ministry of Employment and Social Security (2009 to 2014); Ministry of Health, Social Services and Equality (1997 to 2014); and National Institute of Statistics (1976 to 2014). In addition to reviewing the scholarly literature on the topic in Spanish and English, we also examined Spanish mobility laws and European directives.

**Population:** We used the Organization for Economic Cooperation and Development definition of “professionally active nurses” which defines practising nurses and other nurses as those for whom their education is a prerequisite for employment as a nurse. Moreover, we used the term “nursing graduate” as defined by Spanish Ministry of Education to describe those who have obtained a recognized qualification in nursing in a given year, the term “registered nurses” is defined by Spanish law as nurses registered in the Nurses Associations and “unemployed nurses” are those without work and registered as seeking employment.

**Results:** A transformation of the Spanish health system has reduced the number of employed nurses per capita since 2010. Moreover, reductions in public spending, labour market reforms and widespread unemployment have affected nurses in two ways: first by increasing the number of applicants per vacancy between 2009 and 2013, and second, by an increase in casual positions. However, despite the poor job market and decreasing job security, the number of registered nurses and nursing graduates in Spain per year has continued to grow, increasing the pressure on the labour market.

**Conclusions:** Spain is transforming from a stable nursing labour market, to one that is increasingly producing nurses for foreign markets, principally in Europe. With its low birth rate, increased life expectancy and increasing rates of chronic disease, it is critical for Spain to have sufficient nurses now and into the future. It is important that there be continued

\* Corresponding author.

E-mail addresses: [paolagalbany.estragues@utoronto.ca](mailto:paolagalbany.estragues@utoronto.ca), [paola.galbany@uab.cat](mailto:paola.galbany@uab.cat) (P. Galbany-Estragués), [Sioban.nelson@utoronto.ca](mailto:Sioban.nelson@utoronto.ca) (S. Nelson).

study of this phenomenon by Spanish policy makers, health service providers and educators in order for Spain to develop health human resources policies that address the health care needs of the Spanish population.

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## What is already known about the topic?

- In Spain, the economic crisis has had a negative impact on the healthcare system. The cuts in spending have affected the quality of care.
- A third of nurses working in Hospitals from the National Health System in Spain are not satisfied with their jobs. High burnout rates and a poor work environment for nurses are associated with intention to leave one's job.
- In Spain the population is ageing and there has been an increase in chronic diseases. The healthcare system requires sufficient nurses to meet the long term needs of the population.

## What this paper adds

- The negative impact of the economic crisis was apparent by 2010 by which time the number of employed nurses per capita had fallen. Despite these changes, the number of graduates per year has tended to grow.
- Between 2010 and 2013, more nurses than any other health professionals, have requested approval of their degree to work abroad under the mobility provisions of European Directive 2005/36.
- The reasons why Spanish nurses migrate are related decreased job security arising from reduction of public spending, labour market reforms and health care transformation, along with widespread unemployment in Spain.

## 1. Introduction

In 2011, in order to plan for human resources in the health sector, the Spanish government compiled a report on the rates of supply/demand for nurses for the period of 2010 to 2025. The report was based on the number of nurses working in regional community health services, as of October 31, 2009. Based on a linear trend of nurse migration, and taking into account demographic changes, the study concluded that the supply of nurses would remain adequate if the present structural features of the health care system were maintained (López Blanco et al., 2011). However, since the publication of that report, there have been significant changes to the structural features of the Spanish health care system, including an increase in the emigration of nurses trained in Spain (MECD, SEI, 2015). This paper examines this trend as well as explores what is known about the factors which motivate nurses to emigrate. We argue that Spanish policy makers and nursing leaders need to understand the changing nature of the nursing labour market and implement appropriate

initiatives to develop human resources policies in the health sector, to address retention issues and ensure the sustainability of the health care system.

## 2. Background

### 2.1. International nursing migration

Migration is a phenomenon related to the process of globalization and the development of the world's major economies which seek to ensure their competitiveness (CEPAL, 2006; Díaz Matey, 2007). Since the Second World War, the implementation of agreements between governments has improved the integration of markets of different countries and the cross-border movement of goods and services. These policies have promoted the global mobility of workers between countries (Nelson, 2013). Skilled migration is increasing within the OECD countries, despite the fact that countries are becoming increasingly selective in their choices (OECD, 2015).

In the case of health professionals, there has been a long history of international migration of doctors and nurses (Mejía, 1978; Mejía et al., 1979; Nelson, 2013). Mejía (1978) defined the international migration of health professionals as an uncontrolled and unpredictable movement affecting the ability to estimate future manpower requirements in the health sector.

The shortage of nurses is a cyclical process linked to the policies of the various countries, affecting hiring budgets and investments in education and training (OECD, 2015; Pittman et al., 2007). Thus, while countries such as the UK and Canada depend on nurses from abroad to cover their cyclical shortages, they, in turn, lose nurses who emigrate to the United States (Foster et al., 2013; McGillis Hall et al., 2009; Pittman et al., 2007; Salami and Nelson, 2014; Salami et al., 2014). The Philippines has long led the world in supplying nurses for export. Other countries such as China, Pakistan, Vietnam and India are gaining importance in this type of migration (Brush, 2008; Garner et al., 2015; OECD, 2015; Zhou et al., 2016), as are African and Caribbean countries (Dywilil et al., 2013). The “push and pull” theory outlines the combination of drivers, such as poor pay and lack of advancement opportunities, as well as the hope of security and prosperity for one's family, and attractors, such as higher pay and broader opportunities, have long been used to explain the factors that lead nurses to migrate (Kline, 2003; Mejía et al., 1979).

In Europe, there has been an increase in the migration of health professionals as a result of the impact of the economic crisis that began during the period 2007–2008 and with the enlargement of the European Union. In 22 countries of the OECD, the migration of nurses has

increased from 11 to 14.5% (OECD, 2015). In this sector, migration usually occurs from developing to developed countries (ICN/FNIF, 2006; Dywili et al., 2013; Kingma, 2001; Kline, 2003).

Both the crisis and EU enlargement have led to changes in public policies, as well as changes in the health systems and labour markets of member countries, which have directly affected health care professionals (Alameddine et al., 2012; Aiken et al., 2014; Buchan et al., 2014; Dussault and Buchan, 2014; OECD, 2015). In particular, an increase has been observed in the rate of emigration of nurses in countries such as Spain, Portugal and Ireland (OECD, 2015).

## 2.2. Migration in Spain

Due to the economic crisis in Spain, and as part of the global economic crisis that began in 2008, between 2010 and 2014, the rate of emigration of residents of Spain exceeded the rate of immigration, resulting in a negative migratory balance (INE. MS, 2015). In January 2014, the number of Spanish nationals residing abroad exceeded 2 million (INE. CERA, 2015). The number of immigrants resident in Spain is increasing at a rate of 7% per annum. Of the Spaniards who emigrated in 2013, two-thirds were born in Spain and a third was born abroad; three-quarters of these were of working age, between 16 and 64 years (OECD, 2015). The majority of the Spaniards who emigrated went to countries of the European Union, with the UK as the preferred destination (Alaminos et al., 2010; Herrera Ceballos, 2014).

The main cause of emigration among native Spaniards has been identified by González and Martínez (2014) as the perception of a lack future in Spain. Other issues include unemployment and the desire to improve one's academic and professional status (González and Martínez, 2014). The most common emigrant profile is that of the young Spaniard who is qualified in the sectors of health, architecture and engineering, as well as scientists and researchers. The increase in the rate of emigration abroad has raised a sense of social alarm in Spain, and concerns over the "brain drain" (Herrera Ceballos, 2014; González and Martínez, 2014; González Ferrer, 2013).

## 2.3. Emigration of nurses from Spain

Approximately 10,000 nurses graduate in Spain every year (MECD. SIIU, 2015). 6371 nurses were unemployed in December 2010. By December 2013, this number had increased to 10,851 unemployed nurses (MESS. SEPE, 2015). International mobility, generally within Europe, has provided these nurses with the opportunity to find employment outside of Spain, and reduced the surplus of nurses on the domestic market (OECD, 2015).

París and Pujol (2010) from the Nurses Association of Barcelona found that between 2008 and 2009 in Barcelona there was an increase in demand for nurses to migrate abroad. Studies of nurse migration from Spain have found Spanish nurses looking to migrating in search of better health system conditions (París and Pujol, 2010) or work experience abroad that is highly valued on their return to Spain (Masanet Ripoll, 2010).

Celorrio González (2014) and Simón Melchor and Simón Melchor (2014) detail the nurses' biographical experiences on the process of migrating; whereas as Jiménez García (Á. et al., 2014) analyze the personal reasons that drive nurses to emigrate, their process of adaptation to the host country, challenges they face in their personal and professional relationships. They also faced challenges in the practice of their profession. Recently, Kuhlmann and Larsen (2015) published a study analysing the situation of Spanish nurses in Germany. They explored the process of individual migration decisions and concluded that Spanish nurses had no or little information on job opportunities and work conditions in other countries. The Spanish nurses in their study were unprepared for the realities of working abroad and tended to romanticize the situation in other countries. This tendency had negative consequences for their integration in the host country, despite the attempts of their German employer to create innovative models for integration. They found that Spanish nurses suffered frustration and high levels of return migration and change of employers (Kuhlmann and Larsen, 2015).

In sum, these studies concluded that the typical emigrant Spanish nurse is a young, with little or no professional experience, and faces major challenges adapting to the new country. The language barrier and differences in professional qualification and training between the countries also add to the challenges for Spanish nurses. However, all return migration stories are not "failures" as there are also those whose ultimate goal is to return to Spain with the intention of improving employment opportunities (Jiménez García, Á. et al., 2014; Masanet Ripoll, 2010; Kuhlmann and Larsen, 2015).

Against this background, the Spanish press has raised alerts regarding the drain of nurses trained in Spain over the last few years, with headlines such as "Nurses that Spain does not want" (Olmo, 2012) and in the international press "Spain, European factory of nurses" (Clerima, 2013) or "Spanish and Portugal nurses fill the gaps of NHS" (Howie, 2011) in major media outlets in English, French and Spanish.

Our goal was to further examine the mobility of Spanish nurses and at the same time examine policy trends affecting nursing education and employment in Spain between 2009 and 2014.

## 3. Methods

### 3.1. Design

Due to the emergent nature of the research issue and the nationally important goals in terms of policy impact we undertook a case study. This is a single embedded case study of "Spanish nursing migration" (Yin, 2014), and we used publicly available data from multiple government and intergovernmental agency data sets: Health Statistics, Organization for Economic Cooperation and Development (OECD) between 1996 and 2013 and from Spain: Ministry of Education, Culture and Sports (MECD, 1995 to 2014); Ministry of Employment and Social Security (MESS, 2009 to 2014); Ministry of Health, Social Services and Equality

(MSSSI, 1997 to 2014); and National Institute of Statistics (INE, 1977 to 2014). In addition to reviewing the scholarly literature on the topic in Spanish and English, we also examined Spanish mobility laws and European directives.

Yin argues that a case study is ideal for exploratory research and when the focus is on how and why questions (Yin, 2014). Case study also allows for the exploration of contemporary phenomenon. Within the single case we incorporate embedded units of analyses, such as labour market and health workforce data, to providing an extensive analysis of the case and allow for multiple perspectives to shed light on the single case of Spanish nursing migration (Yin, 2014). The case study is bounded temporally (Stake, 1995), it examines migration only for the post economic crisis period to most recent available data (2009–2014). In addition to the quantitative data that tracks employment, health human resources and mobility, we review the secondary literature to examine the qualitative studies that have focused on the motivations and experiences of Spanish nurses who migrated over this period.

### 3.2. Study population

We looked at the movement of the “professionally active” Spanish nurses. As defined by the OECD, a professionally active nurse is one who is a practising nurse for whom their education is a prerequisite for the execution of the job. For Spain, the inclusion criteria are: professional nurses (ISCO-08 code: 2221), nurses providing services directly to the patients, nurses working in administration, management, research and in other jobs excluding direct contact with patients. The exclusion criteria are: nurses who hold a job under which nursing education is not required, unemployed nurses, retired nurses, and nurses working abroad (OECD, Jul. 7, 2015).

We use the term “registered nurse”. In Spain this term includes nurses registered with the relevant Nurses’ Associations for the exercise of the nursing profession in any of its fields or modalities (BOE 269, Nov. 9, 2001).

We use the term “unemployed nurses” to define nurses in Spain without work and registered as a job seeker (MESS. SEPE, 2015).

“Nursing graduates” specifies those who have obtained a recognized qualification in nursing in a given year (MECD. SIIU, 2015). Nurses who want to work abroad need to apply for accreditation of Spanish qualifications corresponding to those regulated by the Directive 2005/36/EC and are a subset of “nursing graduates” (MECD. SEI, 2015).

### 3.3. Data collection

Case study uses a multiple sources of evidence as well as quantitative and qualitative data (Yin, 2014). In our case, to explore the issue of Spanish nursing migration we reviewed quantitative data (supplementary Table 1) and undertook a document analysis of policy documents, laws that impact nursing education or the labour market, and the scholarly literature. Prior to data collection we consulted an expert in health workforce data from the Ministry of Health, Social Services and Equality from Spain

and one expert in health related and labour market laws. At the same time, we worked with an expert in Health Division from OECD about information of Spanish nurses working in other countries. The time frame of the study was 2009 to 2014. All data were collected from publically available websites between June 2015 and July 2016.

We examined scholarly literature for the theme “health system changes” (sub-themes “austerity measures” and “practice of nursing”) and the theme “labour market reform”. We searched peer-reviewed original papers or discussion documents in English or Spanish. For the sub-theme “austerity measures”, we focused the search only in publications between 2012 and 2015 in order to understand how cuts in the public health system resulted in negative effects on the quality of care. For this, the main keywords searched in the data bases Web of Science and Scopus were “austerity measures”, “financial crisis”, “economic crisis”, “Health care reform”, “policy document” and “Spain”. We found 10 articles, we selected 6 and we excluded the papers that did not focus on changes due to legal reform. In addition, we consulted all the Spanish laws for reforms in labour market between 2010 and 2014. To argue why the government implemented the salary cuts in Spain after 2010, we selected two papers retrieved from Google Scholar concerning the changes in the legislation after 2010, the flexibility and casualization. One paper is cited in the sub-theme “austerity measures” and the other in the theme “labour market reform”. For the sub-theme “practice of nursing” we focused our interest in changes on nursing especially since the crisis. We focused the search only on work published between 2011 and 2015 due to our quantitative data showed that crisis affected nursing by 2010. The main key words searched in the data bases Web of Science, Scopus and Ciberindex were: “work environment”, “burn out”, “nursing care”, “public and private hospitals” and “Spain”. We found 12 articles, we selected 6 and we excluded papers which validated scales, studies of a single case or papers unavailable.

### 3.4. Data analysis

Based on the quantitative data from the Ministry of Education, Culture and Sports (MECD. SIIU, 2015; MECD. SEI, 2015) policy documents and laws analyzed, we identified four themes: The evidence of Spanish nursing migration, education policy changes, health system changes and labour market reform. In a second stage, after analyzed the quantitative data and the scholarly literature we identified four sub-themes inside health system changes: organizational changes to primary health care, organizational changes to specialized care, austerity measures and practice of nursing.

Quantitative data were processed in R with the integrated development environment RStudio and translated to graphics with R’s ggplot2 package. A PhD student has contributed to the acquisition of data and the production and interpretation of statistical graphics. We present quantitative data in time series in order to detect trends. Then, we compare the trends over the same period and analyze with qualitative data why these trends occurred.

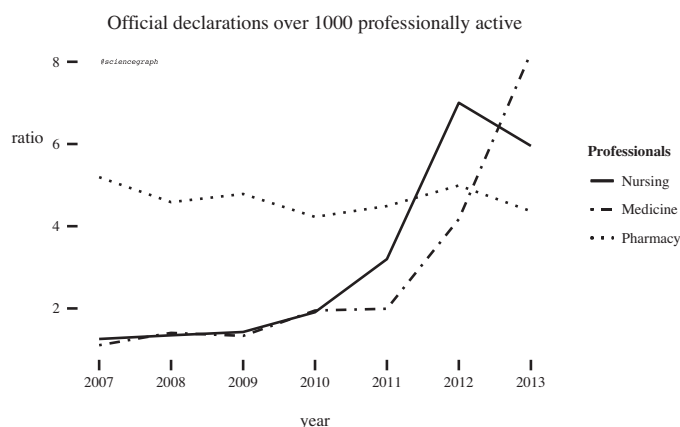


Fig. 1. Ratio of official declarations stating that a qualification or award obtained in Spain is regulated under Directive 2005/36/EC to work inside the EU over 1000 professionally active.

### 3.5. Methodological rigour

According to Yin (2014, p. 66), the use of mixed method design “permit to collect a richer and stronger array of evidence than can be accomplished by any single method alone”. In this case, we triangulated the evidence from multiple sources to enable construct validity.

Yin (2014) argues that rigour is accomplished through adherence to protocol and well structured procedures for data analysis. Qualitative and quantitative evidentiary sources are to be combined to provide a fuller understanding of the phenomenon.

## 4. Results

### 4.1. The evidence of Spanish nursing migration

The State Register of Healthcare Professionals was implemented in Spain by way of the Royal Decree-Law 16/2012, with the purpose of maintaining control of the number of available professionals and to facilitate the planning of health human resources, in order to respond to the healthcare needs on behalf of the population. This information is also intended to be used for the coordination of human resource policies within the scope of the National Health System (BOE 98, Apr. 24, 2012). The Royal Decree 640/2014 has enabled its development, however, data are not yet available to researchers (BOE 197, Aug. 14, 2014).

Presently, the number of available nursing professionals in Spain is unknown. The same applies to the data on nurses who have emigrated. However, people who have studied in Spain and want to work abroad need to apply for accreditation of Spanish qualifications corresponding to those regulated by the Directive 2005/36/EC, to work in another country of the European Union or the European Economic Area professions (MECD, SEI, 2015). Since 2010, there has been an increase in requests for the registration of nursing qualifications for working abroad (MECD, SEI, 2015). Between 2010 and 2013, a total of 4580 nurses requested registration to migrate. At the same time, between 2010 and 2013, nurses trained in Spain were

the professional group that most frequently requested registration of their professional qualification in order to take up employment abroad, compared with other professions mentioned in the directive 2005/36/EC. For the first time, in 2013 doctors overtook nurses in these requests (supplementary Fig. 1).

To relativize the analyzed data we compare (Fig. 1) the ratio of graduates in nursing, medicine and pharmacy who applied for accreditation of Spanish qualifications per 1000 professional active of each one. In 2009, the ratio of nurses and doctors was similar at 1.4 and 1.3. In 2010 it was 1.9 for both and since 2011 the trend of both seceded. In 2011 the ratio for nurses increased to 3.2 while the ratio of physicians remained stable at 2. In 2012 the ratio of nurses stood at 7 above 4.2 of physicians and 5 of pharmacists. In 2013 the ratio of doctors increased up to 8.2 while the nurses dropped to 6 points. Between 2009 and 2014 the ratio for pharmacists has ranged between 4.2 and 5 (OECD, Jul. 7, 2015, revised on April 28, 2016).

From the data available to the OECD, in 2014, there were 8077 Spanish-trained nurses working abroad. The most frequent host countries were United Kingdom (5624 nurses from Spain), France (1734), Portugal (approximately 1004), Belgium (304) and Italy (292).<sup>1</sup> There are also data about the annual inflow of Spanish nurses between 2009 and 2014. During this period, 5760 Spanish nurses migrated to United Kingdom, 319 to France, 251 to Belgium, 89 to Italy and 250 to Norway. The rate of emigration of nurses to Germany has been 1221 Spanish nurses between 2012 and 2014 (OECD, Jul. 7, 2015, revised on Jul. 14, 2016). Since 2012, Finland recruited approximately 150 nurses in Spain under the Mediko-Recruitment of Foreign Health and Social Care Professionals to Finland launched in 2008, which received financing from the European Social Fund and Finnish public authorities on a national, local and regional level (OECD, 2015).

In order to understand this phenomenon of emigration of Spanish-trained nurses, we will turn to the education

<sup>1</sup> OECD/Eurostat/WHO-Europe joint questionnaire 2015. Information provided by Mr. Gaetan Lafortune.



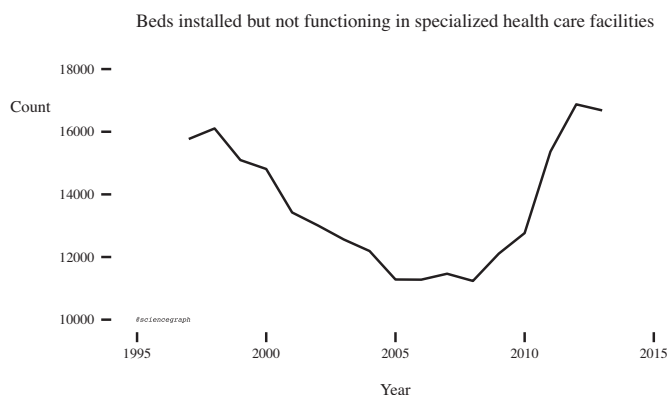


Fig. 2. Count of beds installed but not functioning in specialized health care facilities in Spain.

policy changes, health system changes and labour market affecting the nursing profession in Spain.

#### 4.2. Education policy changes

In Spain, according to the Law 44/2003, that regulates the health professions, nursing professionals are qualified to perform the “management, assessment and delivery of nursing care, directed towards the promotion, maintenance and recovery of health, as well as to the prevention of diseases and disabilities” (BOE 280, Nov. 22, 2003).

The program for General Care Nurses, that had taken place at the University level since 1977, as a “Diplomatura en Enfermería”, comprised 3 years or 4600 hours. In 2008 this diploma was converted into a “Grado en Enfermería” of 4 years and 240 ECTS (BOE 50, Feb. 27, 2008). The first graduate programs in nursing (*Grado en enfermería*, in Spanish) were commenced during the academic year 2009–2010 at some universities and, at all Spanish universities in 2010–2011 and the titles of Master and Doctor formally approved for nurses. Thus, by way of the Royal Decree 861/2010, the Spanish university system complied with its commitment to the Bologna Declaration of 1999 and adapted to the process of convergence of the European Area of Higher Education (BOE 161, Jul. 3, 2010).

These changes were intended to facilitate the exchange of graduates between various countries and promote employability on the European labour market by improving the quality and competitiveness of students and professionals (Summary of EU Legislation, 2015). The mobility of professionals within the member States of the EU led to the mutual recognition of diplomas, certificates and other evidence of training for certain occupations within the nursing profession (OJEU L 255/22, Sep. 7, 2005). This enabled mobility for health professionals within Europe (COM(2008) 725 final, Dec. 10, 2008).

In Spain, the number of nursing graduates per academic year grew rapidly between 2006 and 2011, from 8368 to 11,561. This growth rate was interrupted during 2012 and 2013, due to changes to the bachelor degree from 3 to 4 years. 11,700 students graduated in 2014 (supplementary Fig. 2).

#### 4.3. Health system changes

Organizational changes have been implemented to the health system, which have affected the planning of human resources. These changes can be summarized as follows.

##### 4.3.1. Organizational changes to primary health care

During the period 2004 to 2009, the number of primary health care centres increased, from 12,901 to 13,135. From 2009 until 2014, the total number of centres was reduced to 13,104.

Regarding the ratio of number of nurses per 1000 inhabitants in primary health care centres, the Ministry of Health, Social Services and Equality (MSSSI, SISSNS, 2015) lacked data until 2007. During the period 2007 to 2009, the increase is significant, from 0.33 to 0.48. From 2009 until 2014, the variation was a mere 2%, from 0.48 to 0.50 (supplementary Fig. 3).

##### 4.3.2. Organizational changes to specialized care

During the period 1997 until 2003, the number of specialized health care facilities,<sup>2</sup> such as hospitals, decreased on a yearly basis, from 788 to 741 centres. Between 2003 and 2007, this number increased to 764 and the period between 2007 and 2013 varied in the number of centres, however, stabilizing once again at around 764.

Regarding the number of beds installed in these centres, which are non-operational, a reduction was observed during the period from 1997 to 2008, from 15,768 to 11,236 beds. This number increased from 2008 to 2013 to 16,681 non-operational beds (Fig. 2).

During the period 1998 to 2013, the ratio of operational beds per 1000 inhabitants decreased yearly at a significantly constant rate of variation from 3.76 to 2.93. This means that in this period, on average, 55 beds were

<sup>2</sup> The Ministry of Health, Social Services and Equality defines the specialized health care facilities as an inpatient beds centres with specialized health care (public and private) and specialized health care without inpatient beds centres (public and private) performing ambulatory activity related to the hospital (outpatient surgery and diagnostic activity with high technology).

reduced per million inhabitants every year (MSSSI, SISSNS, 2015). Independently of demographic changes (number of births, deaths and migrations) every year there are less available beds per inhabitant.

The ratio of nurses per 1000 inhabitants at specialized health care facilities increased on a yearly basis, during the period 1998 to 2010, from 2.46 to 3.21. This trend was interrupted from 2010 to 2013 and the ratio was reduced to 3.10 (supplementary Fig. 4).

The deterioration in the rate of occupancy of the installed beds from 2008 as was showed by Fig. 2 can explain the reduction of the ratio of nurses per inhabitant from 2010. That said, this decline is not observed in primary health care centres, which have remained relatively constant since 2009 (MSSSI, SISSNS, 2015).

#### 4.3.3. Austerity measures

The austerity measures implemented by the Spanish government entered into effect during the second socialist government (2008–2011) of José Luis Rodríguez Zapatero, with the purpose of recovering the trust of the international community regarding the efficiency of the Spanish administration. Following the change of government in 2012 by the popular, conservative party, these initiatives were put into place and intensified on behalf of the European Union. These measures impacted the health sector as follows:

- Reduction of the public health budget from 70,579 million euros in 2009 to 61,710 million euros in 2013, thus reducing its share of the Gross Domestic Product (GDP) from 6.5% to 5.95%. Per capita spending decreased from 1510 euros per capita in 2009 to 1309 in 2013. Remuneration of staff represented the highest percentage of the budget and it decreased by 11.4% during the period 2009 until 2013 (Lillo Fernández de Cuevas and Rodríguez Blas, 2015). In 2014, public health employed 55,000 fewer workers than in 2009 (Sánchez Bayle and Fernández Ruiz, 2014).
- The government aimed to reduce the public deficit between 2010 and 2014, in order to boost flexibility and competitiveness (Furió Blasco and Alonso Pérez, 2015). Legislative changes, such as the Royal Decree-Law 8/2010, reduced the wages of public employees by 5% and limited the availability of public employment by fixing the rate of replacement to 10% of the vacancies (BOE 126, May 24, 2010). From 2011 to 2014, the salaries of public employees were frozen and the Royal Decree-Law 20/2012 abolished the 2012 Christmas supplement (BOE 168, Jul. 14, 2012). Furthermore, some regions performed supplementary cuts (Legido-Quigley et al., 2013). Additionally, the government implemented labour reform based on the Royal Decree-Law 10/2010 and the Decree-Law 35/2010 (BOE 147, Jun. 17, 2010; BOE 227, Sep. 18, 2010).
- The implementation of the Royal Decree-Law 16/2012 (BOE 98, Apr. 24, 2012), in September 2012, containing urgent initiatives to ensure the sustainability of the National Health System and improve the quality and safety of its benefits, gave rise to cuts within the welfare system, including education, health and social services.

Some of the most significant changes were the exclusion of undocumented immigrants, (except for basic emergency cases, prenatal and paediatric care), increased contributions, and the privatization of some services (Legido-Quigley et al., 2013).

The cuts in the public health system resulted in negative effects on the quality of healthcare. Among other issues, there was an increase in delay for basic healthcare, a reduction in the number of available hospital beds, an increase in the wait time for surgeries, specialist consultations and diagnostic examinations, the over-burdening of the emergency department, as well as the deactivation of emergency services and ambulances. Also there was a deterioration of patients' chronic conditions and cuts in staff and resources, available both in the public and private health sectors (Bosch et al., 2014; Cervero-Liceras et al., 2015; Gallo and Gené-Badia, 2013; Gené-Badia et al., 2012; Legido-Quigley et al., 2013; Sánchez Bayle and Fernández Ruiz, 2014).

#### 4.3.4. Practice of nursing

In Spain, nurses are subjected to excessive workloads and suffer high levels of burnout (Aiken et al., 2012; Cervero-Liceras et al., 2015; Escobar-Aguilar et al., 2013; Fuentelsaz-Gallego et al., 2013, 2012; García-García et al., 2011). However, the level of burnout that a nurse suffers depends on the unit in which they work. Nurses working in hospital wards have higher levels of burnout than those working in critical care units (Fuentelsaz-Gallego et al., 2013).

The pressures on nurses working in acute care have been exacerbated by the policy shift toward an increase in primary care and a decrease in hospital nursing (Germán Bes et al., 2011). These moves, in response to demographic transformation in Spain which, like other western countries, has an older population and rising prevalence of chronic illness, have led to a decline in both acute beds and nurses per head of population.

#### 4.4. Labour market reform

Since 1996, the OECD has maintained data on the number of "professionally active" nurses in Spain. Between 1996 and 2012, the number of active nurses increased on a yearly basis, from 136,933 to 256,467, however, this trend was interrupted for the first time in 2013, with a reduction to 251,267. This implies that in 2013, there were 5200 less employed nurses, active either in direct patient care or in the administration, management, research or other functions, which do not require direct contact with the patient. These data do not include nurses employed in functions which do not require the nurse title (Fig. 3).

Since 1977, the National Institute of Statistics (INE) has monitored the number of registered nurses. From 1977 to 2014, the number of registered nurses has increased on a yearly basis, with a single exception during the period 2011–2012, due to changes to the entry to practice bachelor degree (Fig. 3).

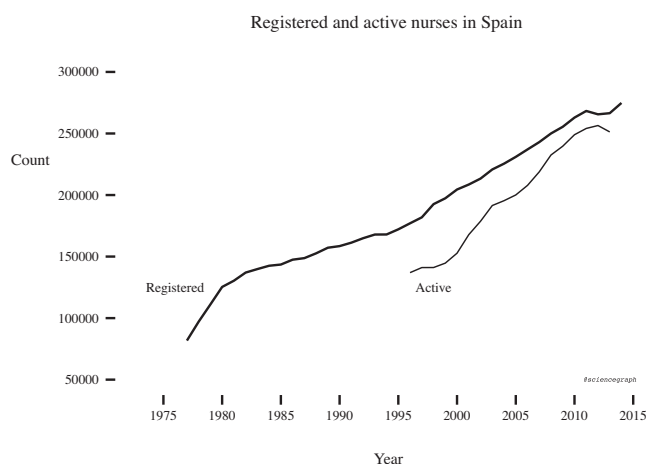


Fig. 3. Count of registered and active nurses in Spain.

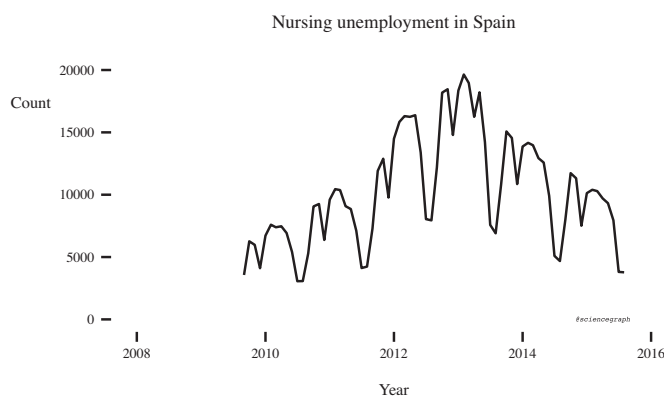


Fig. 4. Count of unemployed nurses in Spain.

According to statistics from Active Population Survey (EPA) from INE unemployment<sup>3</sup> in Spain spun out of control between 2008 and 2012 (supplementary Fig. 5).

Fig. 4 shows nurses enrolled with the public employment services of Spain (*Servicio Público de Empleo Estatal*, SEPE) as job seekers and also unemployed; features two trends, the first one indicating oscillations of this number according to the current month, and showing that this oscillation was more intense during the period 2009 to 2013. The second analysis is that, if observed from a dynamic perspective, the absolute maximum number of monthly nursing job seekers per year increases from 9257 to 19,639 during the period 2010 to 2013 and that, during the following year, 2014, this number drops to 14,161.

<sup>3</sup> In Spain, the operative definition of unemployment used in the EPA was modified in 2002 so as to adapt it to European regulations. According to EU, The Commission Regulation (EC) 1897/2000 of September 7th 2000 establishes practical rules for the specific implementation of the conditions that govern when a person is considered unemployed in the European Union. The same applies to nurses in Spain (OJEC L228/18, Sep. 8, 2000).

Regarding the legislative changes the Royal Decree-Law 20/2011 reduced the rate of replacement of employees to 0%, except for certain sectors, such as health and education. These sectors became subject to a rate of replacement of employees corresponding to 10% of the vacancies and the number of daily working hours was increased (BOE 315, Dec. 31, 2011). The Royal Decree 1716/2012 increased the progressive retirement age to 67 years (BOE 314, Dec. 31, 2012). While the Royal Decree-Law 3/2012 and the Law 3/2012, implemented urgent measures aimed at reforming the labour market, resulting in a series of cuts in workers' rights (BOE 36, Feb. 11, 2012; BOE 162, Jul. 7, 2012). Ortiz García (2013) highlights the reduced cost of the dismissal process, thus facilitating recruitment and boosting employment. Labour market reforms sought to improve employability in a country hard hit by unemployment. The Royal Decree-Law 8/2014 was implemented with the aim of promoting youth employment (BOE 163, Jul. 5, 2014).

The cuts to the labour market impacted nurses, by reducing the rates of replacements due to retirement, creating the smallest possible number of redundancies and generating low numbers of contracts, particularly during the summer months (SATSE, 2013).



## 5. Discussion

### 5.1. Overview

Despite the fact that the number of registered nurses (INE. EPSC, 2015) and the number of graduate nurses per year has tended to grow (MECD. SIU, 2015), for the first time, in 2013, there was a decline in the number of active nurses in Spain (OECD, Jul. 7, 2015). This means that the reduction of nurses between 2012 and 2013 entails an increase in the number of inactive nurses, i.e.: those nurses who perform a job which does not require formal nursing qualification, unemployed nurses, retired nurses and nurses working abroad.

The reduction of public spending, the legislative reforms in the health sector and the labour market, as well as widespread unemployment in Spain, have affected nurses in at least two important ways: by increasing the number of job-seeking nurses between 2009 and 2013, and by exacerbating casualization, especially during the specific seasons, such as summer, in the job market.

There appears to be a link between the number of approvals of certification for nursing (MECD. SEI, 2015) and the rate of unemployment of these professionals in Spain (MESS. SEPE, 2015). Between 2010 and 2013, a total of 4580 nurses requested registration in order to migrate. We believe it is possible that the decline in the unemployment rate of nurses in Spain during 2014 (MESS. SEPE, 2015) is partially due to the increase in the rate of these migrations (MECD. SEI, 2015).

### 5.2. Job security

We argue that these trends reveal the extent to which nursing personnel have been directly affected by the transformation of the health system and the austerity measures affecting public health policy and the labour market. One of the most significant problems faced by the profession is the lack of job security, and high levels of casualization (Celorrio González, 2014; Gómez Enríquez and Rodríguez Rodríguez, 2014).

Spain's unemployment rate is of a structural nature. In order to provide the labour market with greater flexibility and promote the generation of jobs, policies introduced temporary hiring, which were initially adopted by entrepreneurs during the eighties and early nineties. Since 2000, temporary hiring has also been extended to the public sector, especially within the female workforce, which since 2009 has been subjected to increased casualization (Ortíz García, 2013). The "temporary hiring culture" extends to all sectors of production and educational levels (Ortíz García, 2013), where demand for jobs exceeds supply (Furió Blasco and Alonso Pérez, 2015). In the case of nursing, the transformation of the health system towards a "techno-medical" paradigm has resulted in an increase in technology use in hospitals at the expense of nursing staff. According to Germán Bes et al. (2011), the lamentable conditions of Spanish nurses, with the lack of job security, and poor professional structures such as the non-recognition of specializations, have lead many nurses to emigrate.

### 5.3. Work environment

Austerity measures have been adversely affecting the nursing staff of Spanish hospitals (Aiken et al., 2014). In Spain, a third of the nurses employed in the National Health System hospital network are dissatisfied with their jobs and suffer from high levels of burnout from high workloads due to inadequate staffing and allocation of resources (Fuentelsaz-Gallego et al., 2012). In fact European data show nurses from Greece, Germany and Spain report the worst job satisfaction rates (Aiken et al., 2012).

The pursuit of better working conditions and employment opportunities are common reasons which motivate nurses of various countries to emigrate (Garner et al., 2015; McGillis Hall et al., 2009; Zhou et al., 2016). A better allocation of resources would permit nurses to perform functions inherent to their profession, such as, for example, health education, oral hygiene, patient care or updating care schedules (Fuentelsaz-Gallego et al., 2012). Creating and maintaining such a work environment to retain and support nurses is key to improving the quality of care and patient safety (Escobar-Aguilar et al., 2013).

### 5.4. Production and loss of graduates

Spain and Norway have the most educated nurses in Europe (Aiken et al., 2014). Spain features one of the lowest nurse per inhabitant ratios of the EU and it is decreasing (OECD, Jul. 7, 2015), however, it has become a provider country for nurses, mainly for European countries. This happens when a health system cannot absorb its nurses due to lack of funds or because major reforms to the sector are needed, but nonetheless, continues to produce nurses (Kingma, 2007; Mejía, 1978).

### 5.5. Challenges to nursing

International migration is an option for many graduate nurses in Spain, especially those without the prospect of full employment. However, the loss of nurses puts increased pressure on the system at home, resulting in increased workload and reduced job satisfaction rates for those nurses who remain at home. Not only does the quality of care in countries with a shortage of nurses suffers negative effects (Kingma, 2007), but migration can lead to the downgrading of nurses who are eventually recruited to occupy jobs which are below their levels of skills and qualification (Salami and Nelson, 2014; Salami et al., 2014). This happens with Spanish nurses working in Germany in particular (Kuhlmann and Larsen, 2015), but is a problem more generally for Spanish nurses who migrate to European countries.

The loss of a nurse means the loss of an investment (Mejía et al., 1979). Bearing this in mind, the responsible policy-makers should develop strategies to retain nurses (Foster et al., 2013; McGillis Hall et al., 2009). Nurses do not emigrate if they feel adequately recognized in their own countries (Foster et al., 2013). Working conditions in the hospitals should be improved, the patient/nurse ratio reduced and full-time employment offered (Aiken et al., 2012; Fuentelsaz-Gallego et al., 2012; McGillis Hall et al.,

2009). This would involve major changes in the organization of nursing work in Spain and require commitment from government that the retention of Spanish nurses was a priority. Unfortunately, however, as Mejía (1978) argued, nearly forty years ago, these solutions will likely only be of interest to those responsible for the planning of human resources at a time when, simultaneously, the need for labour arises and the rate of loss of these professionals is at its peak. This is despite the fact that evidence shows that there is a link between quality of care, nurse/patient ratios and the level of training of these nurses (Aiken et al., 2012).

### 5.6. Limitation of the study

The validation of Spanish qualifications in order to work inside EU from MECD represent the intention to emigrate and do not necessarily reflect real migration flows. In fact, the number of nurses who have applied for accreditation through the MECD should be considered as the minimum number of nurses, since nurses do not need to validate their degree if they intend to work as a nursing assistant in other countries.

In the absence of a State Register of Healthcare Professionals, we consider these databases to be adequate to analyze the objectives of this study.

## 6. Conclusion

The economic crisis in Spain has affected the nursing profession so that by 2010 there was a reduction of the nurse/inhabitant ratio. This trend adversely impacts the quality of care, as well as the state of health of the professionals themselves, who are subjected to work overload. Despite the lack of opportunities in the labour market and the decline of job security, the yearly number of registered nurses and nursing graduates has continued to grow in Spain. The decline in the number of active nurses in 2013 reflects the inability of the Spanish labour market to accommodate graduates. For this reason and due to the transformation of the health system, the emigration of Spanish-trained nurses is occurring, directed mainly towards other European countries. It is our understanding that the increase in the level of emigration is related to the decrease in the number of nurses seeking employment in Spain during 2014.

The purpose of this research is multifaceted: on the one hand, it is to highlight the need for a more extensive investigation of this type of emigration, as well as to promote an assessment its effect on Spain. We also propose that it is critical for policy makers, health providers and educators to acquire a better understanding of this phenomenon, which will enable them to develop human resources policies in the health sector, to best meet the health needs of the population.

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*Contributors:* We recognize Mr. Pere Millán-Martínez, doctoral candidate, who has contributed to the acquisition of data and the production and interpretation of statistical graphics.

## Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <http://dx.doi.org/10.1016/j.ijnurstu.2016.08.013>.

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