Spain – country profile

These profiles are reproduced here in the same language as they were submitted to WP6. We have not edited or translated any of these submissions and the approaches are described in their own words.

Overview of the health workforce planning process (series of actions taken)

In Spain, the highest political responsibility for health workforce (HWF) planning lies on the Human Resources Commission of the National Health System (CRHSNS) involving 18 public health services and the Ministries of Health, Education, Defense and Finance.

The Ministry of Health, Social Services and Equality (MSSSI) coordinates the HWF planning activities at the state level and makes proposals to the CRHSNS. The MSSSI has an advisory body, the National Council of Specialties in Health Sciences (CNECS), composed of more than 500 representatives from all health professional specialties (doctors, pharmacists, nurses, for example).

The CNECS assists in the HWF planning through different ways, informing about the annual supply of residence positions at the NHS for specialization of health professionals and developing the training programs of specialties in accordance with scientific and technological developments and patients' needs of healthcare attention.

Our experience in HWF planning is mainly based on specialist medical doctors. We have used a model based on supply and demand and the estimation of future needs through the application of a system dynamics model (workforce modelling).
The model defines a single scenario (scenario generation and horizon scanning) based on which the projection of specialty supply and demand for a 15-year horizon is obtained. According to the results, MSSSI and CRHSNS adopt the political decisions (policy analysis), which can range from the distribution of residence positions for medical specialties, to requiring the Ministry of Education to modify the offer of degree places or until the legislation amending.

1. Supply model
This model takes into account the following variables:
• *Numerus clausus* in the faculties of Medicine and number of graduates in Medicine
• Number of specialists in the NHS, including the rate of feminization, territorial distribution, recirculation and the abandonment of the specialty practice.
• Migration
• Unemployment rate
• Retirement
• Mortality rate
• Duration of training in each specialty.

2. Demand model
It is composed of the following variables:

• Demographics of Spanish population: Birth and mortality rates, aging, migration.
• Impact of scientific and technological advances
• Professional competencies
• Changes in organization and/or structure of the health system
• Economic and financial resources
• Demands noticed by the health services of the Autonomous Communities(regional health services)
• Trends in demand defined through a non-structured interview to panel of experts.

Overview of the health workforce planning model

The simulation model starts with the design of the theoretical model and its relationships of causality which seeks to represent the most relevant aspects and determinants of the real system. Once the variables and the relationship between them (current and future) have been specified, the scenario (base model) is generated from which both projections, supply and demand of professionals within 5, 10 and 15 years, are established. This is how two models, supply and demand, are configured for every one of the medical specialties.

The base model being used currently is constructed for each of the medical specialties according to the following scenario:
• Number of specialized training places: average number of places available for each specialty in the period 2006-2010.
• Demand increase, based on the opinion of expert group, composed of professionals from the Ministry of Health, Autonomous Communities and medical specialists
• Number of places in the Faculties of Medicine: 7000 per year
• Number of specialists by gender and specialty. This figure is based on estimations from data provided by various sources. At a nearly date, there will be more precise data from the State Register of Healthcare Professionals

Model results (outputs) offer the following data for the next 15 years:
• Number of specialists (headcount)
• Ratio of specialists per 100,000 population
• Percentage of professionals older than 49 years.
• Demand of medical specialists (headcount).
• Difference between supply and demand classifying each of the specialties under one of the following categories:

	Difference between supply and demand (%)
Moderate deficit	Less than -10
Mild deficit	Between -10 y -5
Balance	Between -5 y + 5
Mild surplus	Between 5 y 10
Moderate surplus	More than 10

Qualitative data collection

Qualitative data collection:
At 2008, a survey to a Group of Experts took place, with focus on the trend of demand for medical specialists until 2025.
Participants in this group of experts were:
- Subgroup of more than 20 experts in HWF planning, catalogue of health services, health plans and health statistics, that work in the Ministry of Health
- Subgroup of experts in HWF planning and management from 11 autonomous communities.
- 43 medical specialists from clinical care practice, representing each of the existing medical specialties.

Each of the respondents was asked to weight the trend in demand for every one of the medical specialties in the 2009-2025 period. The obtained outcome was having the demand of medical specialties classified into the following categories:
1. Crescent
2. Crescent-stable
3. Stable
4. Declining

In order to quantify these trends into the model, the annual and accumulated growth rates published in a study with a similar methodology were used: "Physician Supply and Demand: Projections to 2020. U.S. Department of Health and Human Services Health Resources and Services Administration. Bureau of Health Proffesions. October 2006"

Stage in the planning process:
Qualitative data has been collected at the base model stage definition (scenario generation).

How the qualitative data is collected:
A survey of a group of experts was conducted.

Collection of qualitative data:
The information and data analysis was performed by the staff of the MSSSI.

Analysis of qualitative information

- **How is qualitative information processed?**
- **Stages which use expert groups**

As it has been mentioned above, the results of qualitative data have been incorporated into the demand model. The weighting of the results is established as follows:

	Rate of increase in demand for medical specialists by year (%)	Cumulative rate (2008-2025) of increase in demand for medical specialists (%)
Specialties with crescent demand	1.30	24.50
Specialties with crescent- stable	0.60	10.70

demand		
Specialties with stable Demand	0	0
Specialties with declining demand	-0.60	-9.70

Three groups of experts were involved in the methodology used:
- Experts in healthcare planning at the central level (HWF, services, healthcare plans and health statistics)
- Experts in HWF planning from 11 regions
- Medical specialists from 43 specialties of clinical practice

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