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A Glance at Intensive Care Medicine in Chile

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Chile is located in the south-western tip of South America, has 17.4 million inhabitants, and its population is growing at an annual rate of 0.9%. Chile has experienced significant economic development in recent decades, and it stands out amongst its South American neighbours for being a modern and democratic country with economic stability and active openness to globalisation, including free trade agreements with the largest economies. Per capita income has more than doubled over the past 20 years, becoming the highest in Latin America (OECD 2013).

Health in Chile has evolved in a manner roughly consistent with the gradual social and economic improvement that has occurred in recent decades (Pan American Health Organization 2010) (see Figure 1), including social policies focused on the most vulnerable population and the development achieved in the health system. The improved level of health is reflected in aspects such as life expectancy at birth greater than 78.5 years, a low maternal mortality rate (Ministry of Health, Chile 2008) (18.5 per 100,000 live births, see Figure 2) and a low infant mortality rate (9 per 1,000 live births), among the best in Latin America. Chile is also recognised for adequate control of infectious diseases, good sanitation and hygiene (OECD).

This favourable outlook, however, faces the challenges posed by the particular geography of the country, with a long (4,329 km) but narrow (177 km average) surface that makes health coverage difficult in the more isolated areas. This is compounded by the striking income inequality: in Chile the top 20% of the population earn 13 times more than the bottom 20% (despite a relative poverty decline rate faster than any European country) (OECD 2013). Moreover, the progressive ageing of the population due to declining birth rates and an increasing life expectancy (OECD), together with the increasing complexity of medicine, have raised the demand for intensive care beds in the country.

This has led to a sustained growth in critical care beds, still insufficient for the increasing population and complexity. In the past 10 years critical care beds have increased from 773 to 1270, figures that include both ICU and intermediate care unit beds (Gálvez et al. 2013) (see Figure 3). Health investment in Chile has been constantly growing since the return to democracy, from 1.43% of GDP in 1980 to 6.7% in 2012; in that same period, critical care health investment has multiplied five times (Dirección de Presupuestos del Ministerio de Hacienda 2012). Chile seeks to further increase critical care bed availability in the next few years to reach 6 beds per 100,000 inhabitants, through both the building of new hospitals and the major equipment of existing hospitals. However, the biggest challenge in Chile is no longer the construction and equipping of new ICU units but to have the medical staff needed to run them (Gálvez et al. 2013).

Intensive Medicine in Chile

The first intensive care unit in Chile was established in 1968, within the Emergency Hospital, "Public Assistance", Dr. Alejandro del Río. This happened at the same time as the first coronary ICU was inaugurated in San Borja Hospital and fifteen years after Bjørn Aage Ibsen established

the first ICU in Copenhagen in 1953.

Figure1. Gross domestic product and Life expectancy (Chile 1995-2008)

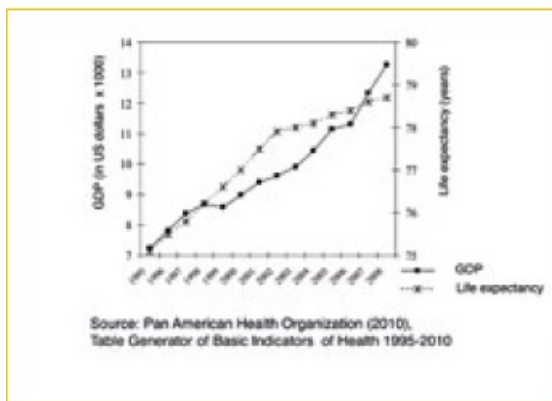


Figure 2: Maternal mortality ratio in Chile (1960-2005)

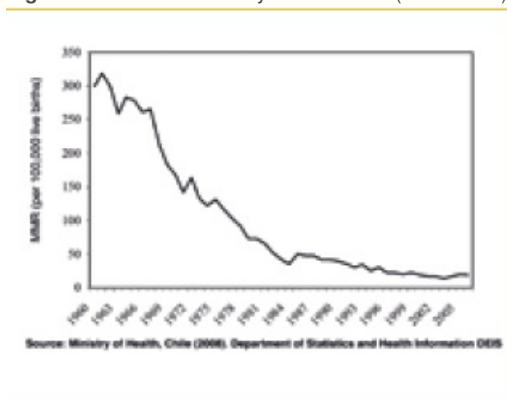


Figure 3. National Availability of Physicians (Chile 1951-2012)

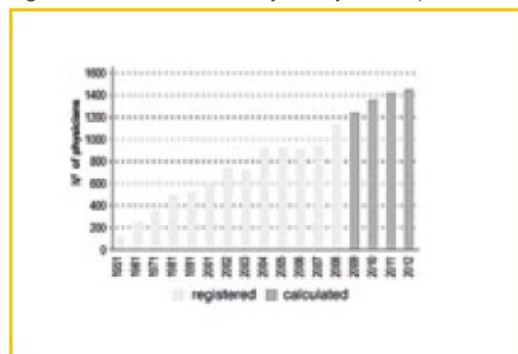


Figure 4. ICU and Intermediate Care beds (Chile 2000-2012)

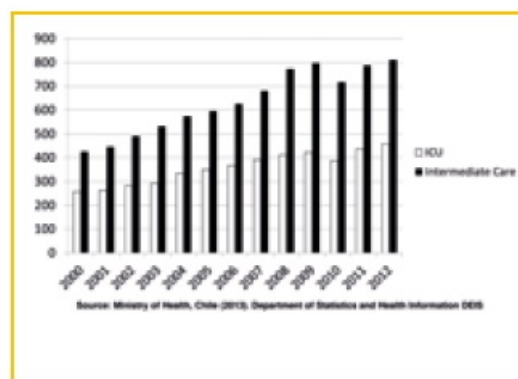
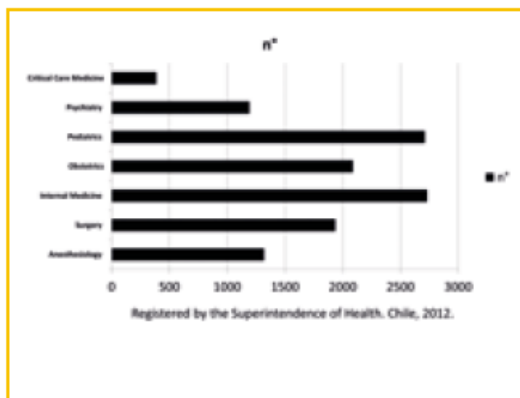


Figure 5: Physicians by Specialty in Chile, 2012



Critical care medicine is a young specialty in Chile. The first Critical Care Scientific Society was founded in 1981, and critical care was formally recognised in 1987 as a specialty of medicine, yet it was not until 15 May 2001 that the Board of the National Autonomous Corporation of Medical Specialties Certification (CONACEM) completed the process of recognition of intensive care medicine and pediatric intensive care as specialties of their own (Medicina intensiva es reconocida por CONACEM como especialidad derivada 2001). The former is accessed in Chile as a derivative specialty of internal medicine, anaesthesiology or general surgery, whereas the latter is a derivative specialty of paediatrics. To access either of these two specialties, it is necessary to be certified by CONACEM in the corresponding basic specialty (Medicina intensiva es reconocida por CONACEM como especialidad derivada 2001).

Approximately 860 doctors currently work in intensive care units around the country with a shift system (Gálvez et al. 2013). Most are specialists in internal medicine, anaesthesiology or surgery, and a minority are intensive care medicine subspecialists. According to records from the Superintendent of Health, only 385 were certified specialists in 2012 (Ministry of Health, Chile 2008) (see Figure 4). The most conservative estimates by the Chilean Ministry of Health and the World Bank indicate that 736 certified specialists meet current demands (World Bank 2012). Until recently, only two Chilean universities offered intensive care as a specialty; this has recently increased to five universities, but even so, only 10 specialists currently graduate every two years. Given the speed of training of specialists, this means that several decades would be required to meet the demands of all ICU units in the country. And so: what we can do?

Chilean scientific societies, universities and health authorities have been discussing various models of university education based on competencies, including the possibility that other specialties, including emergency medicine, neurology, obstetrics and neurosurgery, can access intensive medicine training programmes as a subspecialty. The possibility of providing intensive care medicine as a primary specialty, as in Spain or Argentina, is also being discussed. Simultaneously, scientific societies are making a huge effort to continue to provide medical education for physicians already working in ICUs, who are not certified in intensive care, as a way to standardise care around the country. Both strategies appear to be necessary and complementary to meet the country's needs.



Scientific Societies are making a huge effort to continue to provide medical education for physicians and professionals working in ICUs.

Statistics (2012)	
Total Population	17,465,000
Gross national income per capita (PPP International \$)	21,310
Life expectancy at birth m/f (years)	77/83
Probability of dying aged under five (per 1,000 live births)	9
Total expenditure on health per capita (International \$, 2010)	1,606
Total expenditure on health as a percentage of GDP	7.2

Source: World Health Organization Global Health Observatory <http://www.who.int/countries/ch/en/>

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