



Health workforce governance in Italy



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ABSTRACT

More precise health workforce governance has become a prominent issue in healthcare systems. This issue is particularly important in Italy, given its strongly doctor-centered healthcare system and the dramatic aging of its physicians' labor force. Using different sources of information (statistical data, official planning documents and interviews with key informants), the article attempts to answer two questions. Why has the Italian healthcare systems found itself in the situation of a potential drastic reduction in the amount of doctors in the medium term without a rebalancing through a different mix of skills and professionals? How good is the capacity of the Italian healthcare system to plan healthcare workforce needs? The widespread presence of 'older' physicians is the result of the strong entry of doctors into the Italian healthcare system in the 1970s and 1980s. Institutional fragmentation, difficulties in drafting broad healthcare reforms, political instability and austerity measures explain why Italian health workforce forecasting and planning are still unsatisfactory, although recent developments indicate that changes are under way. In order to tackle these problems it is necessary to foster closer cooperation among a wide range of stakeholders, to move from uni-professional to multi-professional health workforce planning, and to partially re-centralise decision making.

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1. Introduction

Among the main challenges healthcare systems have to face is the need to create a solid and sustainable health workforce 'fit for purpose' and 'fit for practice' [1–3]. On observing how significant this challenge is and how lively the debate around it is in Italy, two facets are strikingly apparent. First, the debate is only emerging in the policy and scientific arena. Second, the fact that the debate and the attention to the issue are only slowly increasing is even more surprising if one considers that health workforce governance and planning takes place in a context, the Italian one, even more complex than it was a few years

ago [4–6], especially in relation to the availability of physicians and nurses [7,8]. In an international perspective, Italy has one of the highest amounts of physicians in the population and, at the same time, one of the lowest amounts of nurses. The healthcare system is still strongly doctor-centered. In recent years an increasing set of data and information has supported the idea that Italy will experience in the short-medium term a strong reduction of doctors due to aging processes within the profession, without an adequate rebalancing of tasks and responsibilities among other health professions.

This article attempts to answer two questions. Why has the Italian healthcare system found itself in a situation of dramatic aging and a potential drastic reduction in the amount of doctors in the medium term without any real rebalancing through a different skills and professional mix? How good today is the capacity of the Italian healthcare

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system to plan healthcare workforce needs in both qualitative and quantitative terms?

The article builds on statistical data, analysis of the main official planning documents for the Italian National Healthcare System (NHS), and interviews in order to provide answers to these questions. Section 2 sets out the background information on the aging phenomenon among doctors and the related issues. Section 3 briefly illustrates the methodology and the data used. Section 4 provides answers to the main questions of the article. The last two sections discuss the results of the study and make recommendations.

2. Background

In 2011, the Italian Federation of Physicians' Orders (FNOMCEO–Federazione Nazionale degli Ordini dei Medici Chirurghi e degli Odontoiatri) published a forecast related to the medical health workforce in Italy [9]. The analysis showed that 6000 doctors retired in that year. The forecast for the following years was an average of around 10,000 yearly retirements between 2011 and 2027. The study calculated a yearly average entry of 7500 new doctors into the system over the same period of time. Overall, the FNOMCEO estimated a net loss of around 40–50,000 physicians between 2011 and 2017. Given that the Health Ministry stated that in 2011 there were around 244,000 doctors [10], the magnitude of the forecasted net loss of 50,000 physicians in the medium term represents a major challenge for the NHS. The FNOMCEO study of 2011 is in line with a discussion about health workforce future shortages in many other countries besides Italy [11,12].

However, two more recent studies, both on doctors, one by the FNOMCEO [13] and the other by the National Association of Hospital Doctors (ANAAO) [14], the most representative trade union of Italian NHS doctors, have made slightly different evaluations of what is taking place and, more importantly, on what should be done in terms of health workforce planning. Adopting different forecasting methodologies, both studies reach similar conclusions. First, the number of physicians' retirements between 2011 and 2015 has been lower than previously forecasted and expected, and this trend should persist for several more years. The forecasts were wrong not because of calculation errors, but because of an important reform of the pension system enacted in 2011 which has strongly delayed retirements and will have a similar impact in the years to come [15]. Second, both documents focused on the issue of setting the '*numerus clausus*' in relation not so much to the access to undergraduate degrees in medical schools as to the number of specialty training places. The Italian legislation requires that only doctors with a specialty medical degree can be hired by the NHS.

On the one hand (as already in 2010) the physicians' order and associations point with alarm to personnel shortages [16–18] in the medium term (10 years), especially in certain specialties (e.g. pediatric care, cardiology, surgery, etc.). On the other, given the centrality of the NHS in the Italian healthcare system as a source of employment, both studies have proposed more specialty training places and not necessarily more medical school undergraduates, the

purpose being to prevent the creation of a group of graduate physicians without specialty training unable to find permanent employment in the healthcare sector. Since the onset of the crisis, also another trend may make the aging of the doctors' population an even more dramatic phenomenon: the choice of many (relatively young) physicians to work abroad. This trend has been strongly and rapidly increasing since 2010, while at the same time the presence of foreign doctors in Italy has remained limited [19].

Whilst much of the attention has been focused on planning the number of physicians, in recent years a similar issue has arisen also in regard to other health professions, in particular nurses. Until the beginning of the economic crisis, a university degree in nursing assured immediate and stable employment. Since then the situation has rapidly deteriorated: in 2007 94% of nurses had a job 1 year after graduation, whereas in 2012 this percentage fell to 63% [20]. In a few years there has been a shift from a shortage of nurses in the NHS to unemployment problems for those that have recently graduated [21]: austerity measures introduced since 2010, in terms of both expenditure cuts and a freeze on new hirings, are the main explanation for this change.

These phenomena are striking if one considers the Italian situation in a comparative perspective. In relation to the health workforce the OECD calculates three important statistics. In 2012 there were in Italy 3.9 practicing doctors per 1000 population, one of the highest values in the European Union (EU-28); and 6.4 practicing nurses per 1000 population, a relatively low level in the EU-28. As a result, the nurses-to-doctor ratio was 1.5, one of the lowest in the EU-28, where the average is 2.3 [22].

On considering changes on the demand side, it is important to recall that Italy has the highest incidence of elderly individuals in the EU (21.4% of the population was in 2014 65+); and Eurostat population projections estimate a value of around 25% for 2030. If the incidence of the elderly population is used as a proxy for changing health needs (toward long-term and chronic care less centered on in-hospital acute care), then the Italian healthcare system is in great need of change. Therefore a problem of health workforce governance exists; but it is not simply related to a potential 'loss' of physicians that would have to be replaced: there is a more general and complicated problem of quantitative (how many new doctors and nurses, etc.) and qualitative (what specialties, what roles for different healthcare professions, etc.) planning [12].

It could be argued that a reduction in the absolute number of physicians is the outcome of an attempt to re-organize the overall NHS and to rebalance the roles of different professions in order to have a less doctor-centered healthcare system. The data available so far do not seem to encourage this interpretation. The above-reported information on decreasing nurses' employment rates after finishing university provides a first indication. The data presented in Fig. 1 support a similar interpretation. The nurses-to-doctor ratio remained practically constant at around 1.5 between 1995 and 2011 (own calculation on Health for All-ISTAT–the Italian National Institute of Statistics – database, 2015). Moreover, the ratio between nurses to doctors who graduated over the last decade, an indicator

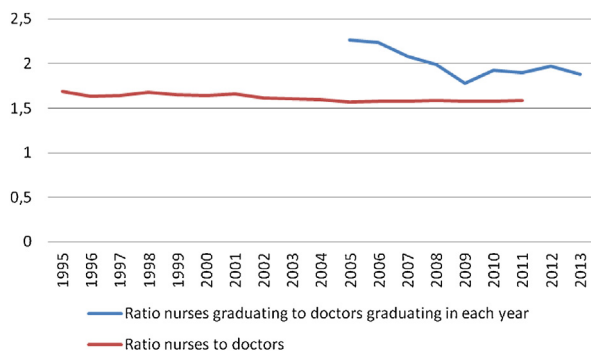


Fig. 1. Physicians and nurses over time: how their ratio has evolved (1995–2013).

Source: own elaboration on Health for All – ISTAT Online database (<http://www.istat.it>) and Health Ministry information on graduating students.

of the future numeric relation between the two professional groups, suggests that the forecasted decrease in medical doctors in the future will not be easily replaced by a robust growth of nurses, given the fact that this specific graduates ratio has been only slightly higher than the one registered for all doctors and nurses, and it has even decreased since 2006. Moreover, there are visible trends of aging also among the nurses population in Italy, due to an higher entry age in the profession after the introduction of the university degree requirement and an increase in the retirement age due to pension reforms [23].

3. Materials and methods

In order to answer the two questions indicated in the introduction, the article builds on secondary data and interviews. In particular, three types of information were collected: statistical data obtained from various sources (mainly OECD, ISTAT and the Italian Health Ministry); analysis of the main official planning document for the Italian NHS, the “National Healthcare Plan” (all 6 Plans produced since the 1990s were analyzed); interviews with three key informants. The statistical data were collected by the main institutions in charge of data collection and processed through descriptive statistics, focusing on changes over time. The content of the 6 National Healthcare Plans was analyzed focusing on whether and how the issue of health workforce and governance was framed and treated.

The three key informants were leading experts on the Italian NHS; they were chosen on the basis of their experience in NHS agencies and direct involvement in healthcare policy-making. A text with bullet points and open-ended questions explaining the goals of the analysis was sent to all three of them. Then a semi-structured interview was carried out in April 2015 directly by the authors of the present article. The data were analyzed through thematic analysis.

4. Results

Italy, followed by France and Germany, is the OECD country with the highest percentage of older physicians (46.5% of them are aged over 54) and the lowest one of

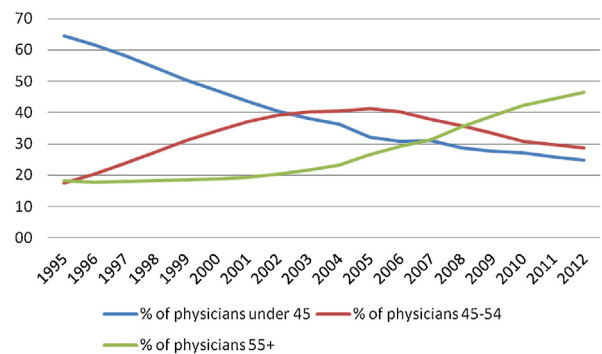


Fig. 2. How the Italian situation has evolved: the incidence of physicians with different ages over time (1995–2012).

Source: own elaboration on OECD Health care Online database (<http://stats.oecd.org/>).

Table 1

Physicians by age (% of all physicians in each country; 2012 or most recent data available).

	% under 45	% 55 or more
Italy	24.7	46.5
France	27.0	43.8
Germany	30.1	42.1
United States	40.7	33.7
Sweden	44.4	33.5
Japan	42.9	33.4
Canada	43.9	32.7
Denmark	42.6	31.8
Australia	50.6	25.8
Spain	48.5	24.0
United Kingdom	63.1	13.1

Source: own calculations on OECD Health care Online database (<http://stats.oecd.org/>).

‘younger’ doctors (only a quarter are aged under 45). The aging of the physicians’ population has been a rapid change over the past two decades. Still in the mid-1990s, around 64% of doctors were aged under 45 and less than 20% were over 55 (Fig. 2). Since then, the incidences of ‘younger’ and ‘older’ doctors have followed two opposite paths: the entry of new doctors into the healthcare systems has become less and less common; at the same time, the relative weight of ‘older’ doctors’ has more than doubled. The forecast for the near future is that Italy will probably experience a severe drop in the number of physicians available, given that the incidence of the generation of doctors aged between 45 and 54 has also started to decrease since the mid-2000s (Table 1).

The growing presence of ‘older’ physicians is the result of the strong entry of (then) ‘young’ doctors into the Italian healthcare systems in the 1970s and 1980s [8]. The generation of the post-war ‘baby-boomers’ becoming adults in those years; the possibility, introduced in 1969, for high-school students to access medical schools (previously only students from lyciums could attend them); the absence of a *numerus clausus* in medical schools (introduced in 1990); the strong increase of healthcare systems expenditure in those decades: these are all factors explaining the expansion in the number of young students first entering medical schools and then becoming doctors in the 1970s and 1980s.

In the mid-1990s Italy was an outlier: there were around 3.9 physicians per 1000 population, whilst the value was around 2 in countries such as Canada, the US and the UK and around 3 in Sweden, Spain, Germany and France (OECD Healthcare Online database). Therefore an important answer to the first of the above questions is as follows: the potential strong drop in the number of physicians may be understood as the long-term outcome of the peculiar Italian situation in the 1990s, with the decision that followed over the past two decades to slow down the entry of new (young) physicians into an healthcare systems already closely centered on doctors.

The Italian NHS is the cornerstone of the Italian healthcare system and it has two institutional features that are important when considering its capacity to plan the health workforce [24]. Since the 1990s, the NHS has been decentralized and in particular ‘regionalized’. Especially since the Constitutional reform of 2001, Regions have become key players in terms of regulating, planning, organizing and providing healthcare. In particular, responsibility for health workforce planning is primarily at the regional level. In the more recent decades this health workforce activity has been centered around the *numerus clausus*, introduced at medical schools in 1990, and the fine-tuning of this *numerus clausus* in relation to how to distribute training places among different specialties. Regions, adopting different planning and projection models, submit to the central government forecasts in relation to the *numerus clausus* for medical, nursing, and other health-related education programs. Although Regions can choose their planning approaches, they must consider the objectives and essential levels of care set by the National Healthcare Plan. Moreover, Regions consult the universities with medical schools on their territory in order to determine what should be offered, given the regional healthcare systems but also the characteristics of the teaching personnel in medical schools (e.g. specialties, etc.).

A specific unit within the Health Ministry brings together these forecasts and validates the results in order to make appropriate recommendations to the Ministry of Education concerning entry into education programs [11]. The decision on the precise numbers of students for different medical specialties and other healthcare professions is the outcome of a complex multi-level negotiation that takes place at the Ministry for Education through the proceedings of a “working committee” made up of representatives from: the Health Ministry, the Education Ministry, the Regions, the universities with medical schools, and the various national orders representing healthcare personnel. Since 2010 the criteria adopted by this Committee in order to plan places at medical schools for doctors, as well as for other health professions, have been the following: confirm the number of places available offered by universities when it is equal to or lower than the one requested by Regions; reduce them when Regions request fewer places.

From 2002 to 2008 the number of medical school places for doctors remained relatively stable (around 7400) and it has increased to around 9500–10,000 since 2010. Other places for healthcare professions (in particular nursing) on university courses have been progressively increased over

time: from around 21,000 in 2002 to 27,000 in 2014 [20]. The Ministry of Education yearly defines also the number of specialty training places. Since the 2000s, the number of such places has remained relatively stable (around 4500–5500) also in relation to single specialties [25], and just recently, in 2015, it has been increased to 6000 places under pressure by the Regions and the physicians’ order and associations.

An OECD publication [11], specifically addressing the issue of health workforce planning, as well as the interviews with key-informants, allow a general assessment in relation to the functioning of the Italian model. It is seemingly applicable to Italy Dussault et al.’s [12] description of the type of health workforce intervention in many countries, focused on establishing training numbers, rather than developing comprehensive strategies. The sophistication of forecasting techniques is relatively low. As the National Association of Hospital Doctors (ANAAO) underlined, there is no single and integrated database with relevant information on doctors and other professions (with data on each professional in terms of age, career, specialty, type of contract) to facilitate planning: specialty training posts are yearly assigned on the basis more of previous years’ assignments and the availability of funding than an assessment based on care needs [14].

Besides ANAAO, also the key-informants confirmed this interpretation, and so did the data contained in the OECD publication [11]: OECD reviewed 26 projection models on health workforce planning in 18 countries and made comparisons among them. The most important results of this comparative exercise are:

- Italy is still one of the (increasingly few) countries that has not set up dedicated bodies to improve health workforce data, analysis, planning and management.
- Health workforce planning is carried out mainly as a ‘demographic’ exercise; on the supply side, the projections of the future number of health workforce are based on the age structure of the current workforce, and the main task is to assess the need to replace those expected to retire; on the demand side, the models are based on demographic changes, taking mainly into account only those in population size [26].

In general, the central government did not strongly invest until recent years in health workforce planning. Analysis of the documents related to the most important general planning tool, the National Healthcare Plan (NHP), shows that few general indications have been developed in this regard. The 1998–2000 NHP for the first time introduced the issue of ‘human resources management’ in very broad terms, but it was almost 10 years later, with the 2006–2008 NHP, that it was proposed to develop forecasting, albeit still at a very and vague level. The draft of the most recent NHP has taken a largely similar approach, only with more precise reference to how the *numerus clausus* mechanism works.

Moreover, medical schools tend to apply pressure on regional planners, as well as on the Education and Health Ministries, in order to obtain training places in areas where they are most keen to exercise their expertise and not

necessarily in the specialty areas where there is a greater need (two key informants stressed this point). At the same time, medical schools are confused: on the one hand, the University Ministry asks them, as it does for all university courses, to be ‘competitive’ and try to attract and train good students able to work everywhere (even outside the country); on the other, the Health Ministry and regional governments ask them to follow regional healthcare systems planning. This situation creates tensions, because two almost completely different ideas of what medical schools should do ensue from the two types of pressure (one key informant emphasized this point).

A last critical element concerns the health workforce planning and governance and the regionalization process in the NHS: as explained above, since 2001 Regions have had almost complete responsibility for organizing their own systems, with a limited coordination role played by the central state. Unfortunately, Italian Regions have very different planning capacities [27], also in relation to healthcare [4]. The tools for health workforce forecasting have spread unevenly at the regional level and many Regions adopt only basic planning tools (all three key informants confirmed this point).

In sum, in answer to the second question of the present article, a clear and articulated health workforce planning strategy does not exist in Italy. However, there are signs that changes are under way. Two important events have occurred in the past few years. At the national level, a significant input has come from the European Commission: since 2008, the European Commission has promoted innovation, starting with the “Green Paper on European Health workforce” [28]; and a European “Joint Action on health workforce planning and forecasting” was launched in 2013 in order to exchange good practices. An important work package (WP5 – “Exchange of good practices in planning and forecasting methodologies”) has Italy as WP leader. This Joint Action is a major opportunity to improve health workforce planning in Italy, given also the fact that seven Regions (out of 20) participate in the project, and intense activity in this regard has begun in the past 2 years [29]. At the regional level, some Regions, for instance Emilia-Romagna, have started to create relatively sophisticated forecasting models with updated data on health workforce, demographic projections until 2030, and information from health and social care regional databases in relation to different aspects of provision. In particular, the forecasting model, introduced in 2014, is centered around identification of changes in care demand. The assumptions made in relation to the future supply of and demand for medical specialists and nurses are translated into numerical forecasts. System dynamics forecasts are used in many European countries: what is interesting about the Emilia-Romagna scheme is that forecasts concern a relatively long time-span (until 2030), and that they are made for 61 different medical specialties in different sectors as well as for other healthcare professionals [30].

5. Discussion

Italy has a tradition of a strongly doctor-centered healthcare system, and in the near future it may find itself in

a situation of a decreasing presence of physicians not coupled with a re-structured system where other professions have more room and responsibilities. Health workforce planning has been developed in a non-innovative manner, although important changes, both at the regional and national level, seem to rise.

Following Dussault [1, p. 284], it is possible to state that in Italy:

1. There is a “problems stream”: the attention of policy makers and the stakeholders has increased only recently, since 2010. Medical associations have led the discussion, whereas the other health professionals’ associations have been less present. The Central State has started to act only under the pressure of the Europeanisation process, and only some Central-Northern Regions have understood the importance of the issue.
2. There is an even broader “policy stream”. The debate on the actions to take has started without reliable databases. The absence of a public national observatory has led to erroneous evaluation and planning over time. At the regional level, the issue of cost containment has monopolized the attention, and health workforce planning has received little attention.
3. The “political stream” is noticeable. The 6 National Healthcare Plans show that the issue of health workforce planning and governance has only slightly entered the public agenda, and it has been tackled more rhetorically than pragmatically.

A set of reasons can help explain this outcome.

- Institutional fragmentation

The Italian NHS institutional design makes health workforce governance and the forecasting of health workforce needs very complicated: there is high fragmentation both horizontally (contracted-out general practitioners vs. NHS hospital doctors and nurses; medical schools vs. regional planning; etc.) and vertically (Central Government vs. Regions). There is no single arena in which all these actors really interact; rather, there is a set of sub-policy arenas which tend to be only loosely coupled. Moreover, in such a complicated context it is easier to act as a ‘veto-player’ than to foster innovation. Adopting a forecasting system that is simply incremental and mainly based on an unsophisticated approach to university and specialties enrolments is the easiest (political) solution in the short term, although it has negative effects in the medium one.

- Difficulties in developing broad healthcare reforms

After the institution of the NHS in 1978, the 1990s were the only recent decade in which the government introduced broad healthcare reforms concerning the use of quasi-markets, decentralization, and the regulation of health professions. Since then, the Italian government and parliament seem to have lost any capacity to propose wide-ranging innovation, and the main focus of their action has been cost-containment. Increasingly the Finance Ministry has become important in deciding and setting limits on

health policy choices [31]. These trends have taken place in other European countries as well, but no other country, apart from Greece, had in the last two decades a huge public debt (equal to around 112% of the Italian GDP) and made cost-containment the main goal of its action [24].

- Political instability

Compared to many other countries [32], Italy has a history of political and government instability: between 1990 and 2014 there were 14 different Italian governments. In such a situation, ministers are usually never in office long enough to develop medium-term planning activities. The other actors know that political turmoil may erupt at any moment. They therefore adopt conservative and incremental strategies of maintaining the *status quo*, and acting as ‘veto-players’ may be more rational than investing in innovation.

- Austerity

As shown by Dussault [1] and this article, the search for better health workforce governance and planning has increased in the past decade, and it has especially gained pace in recent years. Unfortunately for Italy, these have been the years of the economic crisis and of austerity measures. Although some major changes in relation to health workforce governance have recently been made, their implementation has been hampered by budget considerations: for instance, austerity has imposed an important stoppage on the hiring of new doctors and other health professionals and salary freezes [33,34]. A yearly average of –2.5% growth in per capita health spending in real terms between 2010 and 2013 in Italy has had a strong impact on the functioning of the country’s healthcare system (OECD Healthcare Online database).

6. Conclusions and recommendations

Health workforce forecasting and planning is becoming an increasingly important issue in contemporary healthcare systems. Italy seems to be at a crossroads. On the one hand, forecasting and planning have been traditionally neglected. On the other, there have been signs of innovation in recent years, also thanks to ‘Europeanization’ processes [35] and the influence of the EU institutions.

Health workforce planning and governance activities have occupied an increasingly important place on the Central Government’s agenda. There is an attempt to recentralize certain facets of the NHS [7]. Moreover, at the local and regional level, innovation in health workforce management is taking place through the creation of new integrated teams (e.g. clinical collaborative networks between hospitals for specific pathologies; new primary care collective organizations integrating several general practitioners and nurses; and “multi-professional and inter-disciplinary equipes”) [7,31,36]. However, the Italian NHS still faces many challenges in order to improve its health workforce governance capacity. Some recommendations seem to be very important for future development in this field in Italy [4,5]. There is the need to recognize

the centrality and the complexity of the problem in relation to the maintaining of the NHS and its capacity to offer adequate answers to future needs.

- Close cooperation among a wide range of stakeholders has to be fostered, including associations of not only professionals but also citizens. It is necessary to move from uni-professional to multi-professional health workforce planning.
- It is vital to intervene in the institutional NHS design. A de-fragmentation of the policy arena is necessary, especially with the central government assuming a new stronger and leading role. Decentralization without strong central coordination creates a system too complicated to govern [37,38].
- There is the need to create reliable and easily accessible health workforce observatories, with harmonizing standards, definitions and indicators for HRH profiling and analysis.
- Future supply-side improvements should focus also on retirement patterns: the Italian pension system reform of 2011, which increased retirement age and requisites, has had an important impact on behaviors.

Conflict of interest

We declare that we have no conflict of interest.

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