

# Assessment of the healthcare managerial skills offered by the Italian post-graduate schools of public health

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## Abstract

**Background.** The Italian National Health Service (Servizio Sanitario Nazionale, SSN) is facing relevant challenges due to decreased financing and increased healthcare costs (1). In this complex framework, most of the Italian Medical Doctors, after obtaining their Specialization degree in Public Health, develop their careers in organizational and managerial roles in public and private health organizations, i.e. hospitals, local health units, health districts or national and international agencies (1, 2). Public health technical competencies, in particular policy and management, are of crucial importance to develop, run and support healthcare services. However, some gaps exist between current public health needs and the extent to which Public Health Residents are trained in the above fields (3, 4).

**Study design.** The study is a cross-sectional cognitive survey carried out through a questionnaire sent by e-mail to Residents and Directors of the Italian Schools of Public Health, from May to November 2018. The questionnaire was sent only to the accredited Schools which had all four years of the course running.

**Methods.** The questionnaire investigated 35 managerial topics divided into 4 macro-areas. It was sent to both Directors of the SPHs and the Residents of 32 Schools. The latter were asked to provide a single collective answer per School. Respondents could assign a score from 1 (topic not addressed at all) to 4 (topic addressed extensively and linked to other related topics) to each item, also taking into account the skills acquired through internships, seminars, etc. that involved all the Residents.

**Results.** Answers were received from the Residents of 30/32 (93.8%) SPHs and from 15/32 (46.9%) of the Directors. Scores given by the Directors were higher than the ones of the Residents for every topic, and for 17 out of 35 items (48.6%) a statistically significant difference has been obtained. In the overall score of 3 macro-areas out of 4 (General issues, Managerial tools and macro-organisational Models) there are statistically significant differences. In Soft skills macro-area, the single scores of all topics are generally low for both Directors and Residents.

**Conclusion.** The study shows that the Residents declare a strong need for training improvement in the field of healthcare organization and management: the median score is equal to or greater than 3 (topic addressed extensively) in only a few answers. The comparison between Directors' and Residents' scores highlights a different perception of the training offered in these areas. The study results could be pivotal for the improvement of the managerial skills provided to the Residents in Public Health of the Country.

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## Introduction

After obtaining their degree, all Italian MDs looking for an employment within the National Health Service (NHS) are required (a) to attend a three year course to become registered General Practitioners (GPs), or (b) to attend a 4-5 years formation in one of a range of post-graduate School of Specialization; those interested in Public Health must obtain the title of Specialist in Public Health after a 4 year attendance as Residents of one School of Public Health (in Italy named “Schools of Hygiene and Preventive Medicine”) that exist in almost all the Medical Schools of the country. Once entered a position in the NHS, almost all the new PH Specialists are required strong organizational and managerial competencies. However, skills acquired in this area at the post-graduate School do not seem to be sufficient and do vary greatly among the different SPHs. The aim of the study is to map the situation of the training in healthcare management of the Residents in Public Health, and to discuss the possible interventions for improvement and standardization.

Differences in Public Health training are present among Residents of different Countries (5) and even within the same Country, such as Italy. The Italian current official designation of the post-graduate Medical School of Public Health is “Igiene e Medicina Preventiva”. The Schools’ core curriculum includes various aspects of hygiene (e.g. infection control) and preventive medicine (e.g. vaccinations, screening), but also of public health (e.g. migrant and social health, urban health); for this reason, and in order to make the nomenclature uniform to the European Schools, we decided to use the international denomination “School of Public Health” (SPH) in this article.

Although the Italian Ministerial Decree 68/2015 (6), and the earlier Ministerial

Decree 285/2005 (7), introduced and progressively updated a set of guidelines and standards for residency program curricula, the skills a Medical Doctor (MD) acquires during the four-year residency in a SPH vary substantially in each University. A direct consequence is that a professional often achieves the skills needed for managerial positions only long time after she/he has started working (8). This is confirmed by researchers who previously analyzed standards’ implementation and Residents’ training experience in the different Italian SPHs. They reported high heterogeneity both within and between SPHs on types of courses, implemented professional activities, extra-curricular opportunities, training experience rating and – most important – training programs’ adherence to Ministerial standards (9-12). One of the cited studies (2) reported that almost 45% of the employed Public Health specialists judged their training experience partially inadequate when compared to their professional tasks. Moreover, there are different degrees of knowledge among newly-qualified specialists from the same SPH, because each Resident spontaneously finds learning opportunities that are complementary to the core curriculum: internships, courses attended outside the SPH, national and international conferences and even attending abroad for up to one year (usually another European SPH, but also a specific research program or an international health cooperation experience). This discrepancy is particularly relevant on organizational and managerial issues, as there is not a standardized program among the Italian SPHs, despite the above mentioned Italian Ministerial Decrees (6, 7) and a specific attempt that in 2015 involved a group of Professors from various Italian SPHs (13). Things don’t seem to have changed even after 2017, when a new procedure of Medical Specialization Schools accreditation was approved jointly by the Italian Ministry

of Education and the Ministry of Health (14), listing specific criteria in terms of structural and organizational standards, professional development requirements, core competencies, staff and faculty capacity targets. Moreover, a recent Italian legislative decree has been approved aiming at standardizing the skills for the selection of General and Sanitary Directors in the public health trusts (15).

For these reasons, a questionnaire was designed and administered both to the Italian SPHs Directors and to the Residents attending the last two years of the specialization course, in order to scan the topics covered in the area of healthcare organization and management.

## Objectives

The objectives of the study were the following:

To assess the managerial and organizational skills acquired by the Italian Public Health Residents during the four-year specialization course.

To identify the less addressed topics of these areas and to highlight misalignments between the answers of the Residents and of the Directors of the SPHs.

To facilitate the process for a standardized curriculum on healthcare organization and management in all the Italian SPHs.

## Methods

A questionnaire was developed to evaluate the training courses in health services organization and management among the Italian Residents in Public Health. Starting by an analysis of the Italian legislation and national education courses (16-17), thirty-five topics were assessed, grouped in four main areas: general issues (7 items); management tools (13 items, in

particular 6 focused on clinical governance); organizational models (6 items) and soft skills (9 items). A complete list of topics assessed is reported in Table 1. For each item, respondents assigned a score ranging from 1 (topic not addressed at all) to 4 (topic addressed extensively and linked to other related topics).

The SPHs were included in the survey only if they had Residents in each of the four years of the curriculum, in order to have a comprehensive evaluation of the program on all these topics; therefore, the SPHs that had been activated less than four years before the start of the survey and SPHs that were not accredited according to the decree 402/2017 during the academic year 2016/17, were excluded. The list of the SPHs included in the study with the theoretical number of Residents for each SPH during the academic years 2013/14-2016/17 according to the ministerial decrees, (excluding the additional positions reserved for Healthcare workers of the Italian National Health Service and the members of the military workforce), is presented in Table 2 (18-22).

Three e-mails reminders, containing the link to the web-based questionnaire, were sent between May and November 2018 to the Directors and Residents of each of the 32 Italian SPHs included in the survey. To avoid possible biases, Residents attending the last two years were asked to fill collectively one questionnaire for their School, after sharing their opinions with all the colleagues. Additionally, they were asked to consider only curricular courses or internships offered to every Resident and to exclude internships or courses individually attended (not offered to everyone).

The software Stata 13.1 was used for statistical analysis. Sum, average and standard deviation, median and interquartile range (IQR) of Directors and Residents involved by the questionnaire were computed. Median and IQR were calculated to describe results of the four main areas assessed and

Table 1 - Full list of topics assessed and results (from 1=topic not addressed at all to 4= topic addressed extensively and linked to related topic)

Topics	Directors' median (IQR)	Residents' median (IQR)	<i>p</i> value (Mann-Whitney)
Area 1: general issues			
Basic elements of health economics	3 (3-4)	3 (2-3)	0.047*
Structure organization, financing of the National Health Service (SSN) and of the Regional Health Service (SSR)	4 (4-4)	3 (2-4)	0.002*
Quality in Healthcare: definitions. history and models. The multidimensional model.	3 (3-4)	3 (2-4)	0.210
How to perform an organizational analysis to identify critical issues and priorities	2 (2-3)	2 (1-3)	0.297
Healthcare program elements: needs/critical issues-objectives-actions-resources-results	3 (2-4)	2 (2-3)	0.015*
Main regulations about planning and management	3 (3-4)	3 (2-3)	0.053
Performances' measurement of healthcare organizations	3 (3-4)	2 (2-3)	0.073
Area 2: management tools			
Institutional accreditations	3 (2-4)	2 (2-3)	0.081
Voluntary accreditations	2 (2-3)	2 (1-2)	0.104
Total quality management and ISO 9000 certification	3 (2-3)	2 (1-3)	0.058
Lean management	2 (1-3)	1 (1-2)	0.411
Process management	3 (2-3)	2 (1-3)	0.061
Budget systems	3 (2-4)	2 (1-3)	0.029*
Project management	3 (2-3)	2 (1-2)	0.039*
Principles and tools of Clinical Governance	4 (3-4)	3 (2-3)	0.002*
8 a) Principles and tools of Clinical Governance (details) [Diagnostic - Therapeutic - Assistance Path (DTAP)]	4 (3-4)	2 (2-3)	0.008*
8 b) Principles and tools of Clinical Governance (details) [Clinical Risk Management]	4 (3-4)	2 (2-4)	0.022*
8 c) Principles and tools of Clinical Governance (details) [Health Technology Assessment]	3 (2-4)	2 (1-3)	0.013*
8 d) Principles and tools of Clinical Governance (details) [Clinical Audit]	3 (3-4)	2 (2-3)	0.009*
8 e) Principles and tools of Clinical Governance (details) [Evidence-based practice]	3 (3-4)	3 (2-3)	0.199
Area 3: Organisational macro-models			
1) Assistance/hospitals by intensity of care	3 (2-4)	2 (2-3)	0.008*
2) Hospital. specialty and pathology networks	3 (3-4)	2 (2-3)	0.017*
3) Departmental models	3 (3-4)	2 (2-3)	0.021*
4) Organisational models of surgical activity	3 (2-3)	2 (2-3)	0.035*
5) Organisational models of district/territorial activities including intermediate care and aggregative models of General Practitioners	3 (3-4)	2 (1-3)	0.011*
6) Models and tools for hospital-territory integration and transitional care	3 (2-3)	2 (1-3)	0.016*

Area 4: Soft skills			
1) Personnel organisation and management	2 (2-3)	2 (1-3)	0.317
2) Staff training	3 (2-4)	2 (2-3)	0.185
3) Change management e Implementation science	2 (1-2)	1 (1-2)	0.118
4) Leadership	2 (2-4)	2 (1-3)	0.208
5) Teamwork e Learning organization	2 (1-3)	2 (1-3)	0.345
6) Problem solving	3 (2-4)	2 (1-3)	0.094
7) Negotiation	2 (2-2)	2 (1-2)	0.113
8) Meeting management	2 (2-3)	2 (1-2)	0.039*
9)Citizens and patients' involvement in planning and management of health services	2 (2-3)	2 (1-3)	0.173

Table 2 - List of the 32 Italian Schools of Public Health (SPH) which received the online Questionnaire\*, answer provided by Directors and Residents (yes or no) and theoretical number of residents for each SPH during the academic years 2013/14-2016/17 (according to the ministerial decrees, excluding scholarships reserved to medical workers of the Italian National Health Service and the military workforce (18-21).

School of Public Health (SPH)*	Answer provided by Director	Answer provided by Residents	Number of residents (2013/14-2016/17)
Ancona - Università Politecnico delle Marche	No	Yes	23
Università degli Studi di Bari	No	Yes	23
Università degli Studi di Bologna	No	Yes	23
Università degli Studi di Brescia	No	No	15
Università degli Studi di Cagliari	No	Yes	19
Università degli Studi di Catania	Yes	Yes	22
Università degli Studi di Catanzaro	Yes	Yes	15
Università degli Studi di Chieti	No	Yes	15
Università degli Studi di Ferrara	No	Yes	15
Università degli Studi di Firenze	No	Yes	19
Università degli Studi di Genova	Yes	Yes	12
Università degli Studi dell'Aquila	No	Yes	19
Università degli Studi di Messina	No	No	14
Università degli Studi di Milano-Bicocca	Yes	Yes	16
Università degli Studi di Milano-Statale	Yes	Yes	19
Università degli Studi di Modena e Reggio-Emilia	Yes	Yes	19
Università degli Studi di Napoli Federico II	No	Yes	30
Università degli Studi di Napoli Vanvitelli (SUN)	Yes	Yes	39
Università degli Studi di Padova	Yes	Yes	29
Università degli Studi di Palermo	No	Yes	24
Università degli Studi di Parma	Yes	Yes	16
Università degli Studi di Pavia	Yes	Yes	22
Università degli Studi di Perugia	No	Yes	23
Università degli Studi di Pisa	No	Yes	14

Università Cattolica del Sacro Cuore, Roma	Yes	Yes	23
Università degli Studi di Roma La Sapienza	Yes	Yes	41
Università degli Studi di Roma Tor Vergata	No	Yes	31
Università degli Studi di Sassari	Yes	Yes	12
Università degli Studi di Siena	No	Yes	19
Università degli Studi di Torino	Yes	Yes	27
Università degli Studi di Udine	Yes	Yes	23
Università degli Studi di Verona	No	Yes	34
Total answers = "yes"	15	30	

\*Schools that were activated from less than four years at the start of the survey (Università degli Studi di Foggia, Università San Raffaele – Milano and Università del Piemonte Orientale – Novara) and Schools that were not accredited according to the decree 402/2017 during the academic year 2016/17 were excluded (22).

of each item. Mann-Whitney test was used to compare answers given by Directors and Residents. Moreover, to make the results of the main areas comparable to each other, we expressed the median and IQR values in percentages. Significance level was set for p-value <0.05.

## Results

Considering the inclusion/exclusion criteria, 32 Schools were finally included in the survey. The theoretical number of Residents of the 32 SPHs involved by the questionnaire was 695. The average number of Residents per SPH was 21.7 ( $\pm$  7.3); the median number 20.5 (IQR 15.5-23.5). 94% (30/32) SPH for the Residents and 47% (15/32) SPH for the Directors filled in the questionnaire. Table 2 reports details about the involved SPH and the overall number of Residents for each SPH during the period studied.

The single item score given by the Schools' Directors were higher for most of the items compared to the ones provided by the Residents and in 17 out of 35 topics (48.6%) with a statistically significant difference. Moreover, the medians' difference was statistically significant even for three aggregated scores out of the four macro-areas assessed (General issues; Managerial

tools; Organizational macro-models), while for the Soft skills area there were no significant differences:

General issues: 21 (IQR 20-24) vs 18 (IQR 15-22),  $p=0.004$ ;

Management tools: 38 (IQR 31-44) vs 28 (IQR 21-34),  $p=0.007$ ;

Organisational macro-models: 18 (IQR 16-20) vs 13 (IQR 11-17),  $p=0.002$ ;

Soft skills: 21 (IQR 17-27) vs 18.5 (IQR 13-21),  $p=0.087$ .

Analysing macro-areas total scores, the "General issues" area obtained the highest scores from both Directors and Residents. The "Soft skills" area had the lowest scores: nearly 50% from both Directors and Residents. Table 3 summarises the normalized percentages of the macro-areas.

Considering the single item assessed, according to the Directors' evaluation, no topic was defined as "not addressed at all", 10 items were reported as "topic addressed superficially", 21 items were considered "topic addressed extensively" and 4 items as "topic addressed extensively and linked to other related topics". On the other side, according to Residents' opinion, two topics were defined as "not addressed at all" ("Lean management" and "Change management and Implementation science"), 27 items as "topic addressed superficially", 6 items as "Topic addressed extensively" and no one

Table 3 - Results of the four macro-areas: median and IQR results for each area were normalized on a scale between 0-100% in order to make them comparable.

	Directors' scores	Residents' scores
General issues	75% (71.4% - 85.7%)	64.3% (53.6% - 78.6%)
Management Tools	73.1% (59.6% - 84.6%)	53.8% (40.4% - 65.4%)
Organisational macromodels	75% (66.7% - 83.3%)	54.2% (45.8% - 70.8%)
Softskills	58.3% (47.2% - 75%)	51.4 (36.1% - 58.3%)

as “topic addressed extensively and linked to other related topics”. The score of every single item is reported in Table 1.

Significant differences were registered for many items in every single macro-area. In particular, considering the “General issues” area, significant differences were recorded for “National and Regional Health Systems structure, organization and financing” [4 (IQR 4-4) vs 3 (IQR 2.4);  $p=0.002$ ] and “Elements of Health Planning” [3 (IQR 2-4) vs 2 (IQR 2-3);  $p=0.015$ ]. In the area “Management tools” two items resulted to be significantly different: “Budget System” [3 (IQR 2-4) vs 2 (IQR 1-3);  $p=0.029$ ] and “Project management” [3 (IQR 2-3) vs 2 (IQR 1-2);  $p=0.039$ ].

The subgroup of items called “Clinical Governance” resulted as one of the most critical. In fact, five out of six items in this specific area came out to be significantly lower for the Residents group compared to the Directors' group. In particular, these five items were “Principles of Clinical Governance” [4 (IQR 3-4) vs 3 (IQR 2-3);  $p=0.002$ ], “Clinical Pathways” [4 (IQR 3-4) vs 2 (IQR 2-4);  $p=0.008$ ], “Clinical Risk Management” [4 (IQR 3-4) vs 2 (IQR 2-4);  $p=0.022$ ], “Health Technology Assessment” [3 (IQR 2-4) vs 2 (IQR 1-3);  $P=0.013$ ] and “Clinical Audit” [3 (IQR 3-4) vs 2 (IQR 2-3);  $p=0.009$ ].

Similarly, six items in the “Organizational macro-model” scored significantly higher among the Directors than the Residents. These critical items were “Hospital organization

based on intensity of care” [3 (IQR 2-4) vs 2 (IQR 2-3);  $P=0.008$ ], “Pathology networks” [3 (IQR 3-4) vs 2 (IQR 2-3);  $p=0.017$ ], “Departmental model” [3 (IQR 3-4) vs 2 (IQR 2-3);  $p=0.021$ ], “Organizational model of surgical activity” [3 (IQR 2-3) vs 2 (IQR 2-3);  $p=0.035$ ], “Primary care organizational models” [3 (IQR 3-4) vs 2 (IQR 1-3);  $p=0.011$ ] and “Transitional care models” [3 (IQR 2-3) vs 2 (IQR 1-3);  $p=0.016$ ]. On the other hand, only “Meeting management” showed significant differences [2 (IQR 2-3) vs. 2 (IQR 1-2);  $p=0.039$ ] in the “Soft Skills” area which, as stated, obtained the lowest scores from both the Directors and the Residents.

## Discussion and conclusions

Most of new Italian Specialists in Public Health are employed by Hospitals or Local Health Authorities in positions where, since the beginning, solid managerial and organizational skills are required (1, 2).

To outline the need of high level managerial skills for the Specialists in Public Health come the results of a survey performed in eight Italian Regions, which revealed that, at present, 50.5% of the Chief Executive Officers of the Local Health Authorities and of the General Hospitals are MDs; and more than half of them (58.9%) are also Specialists in Public Health (Hygiene and Preventive Medicine) (23).

The results of the present study show,

on the opposite, that training in the areas of health organization and management offered by the Italian SPHs has ample room for improvement. This emerges from the opinions of both the Directors and the Residents. Data collected by the present study represent a first attempt to actively map the managerial and organizational knowledge provided to the new Specialists in Hygiene and Preventive Medicine in Italy and to underline critical points and competency gaps. They also provide a solid basis for adjusting the future curriculum of the SPHs in the area of health organization and management, completing other studies' findings (1, 2).

In particular, Residents highlight a strong training gap in most of the organizational and managerial areas as the medians result equal to or greater than 3 ("topic addressed extensively") only for 6 out of 35 topics (17.1%): "Basic elements of health economics"; "Structure, organization and financing of the National Health Service and Regional Health Service"; "Quality in healthcare"; "Main legislation on healthcare planning"; "General principles of Clinical Governance"; "Evidence-based practice". Instead, according to the Directors, the items that obtained a result equal to or greater than 3 were 25 out of 35 topics (71.4%). In all single items the score assigned by SPH Directors results higher than the score expressed by the Residents, highlighting a very different perception between those who offer and those who receive the training.

Moreover, the standard deviations of the overall averages in the macro-areas show that the scores attributed by the different SPHs present a remarkable variability. In particular, the macro-areas "Managerial tools" and "Soft skills" have a wider standard deviation for answers provided both by the Directors and the Residents. In the areas "General issues" and "Organizational macro-models", the variability is relevant only for the answers provided by the Residents. This great variability in the answers indicates

that the process of standardization of the curricula across the various SPHs is still in its preliminary phase, at least on the organizational and managerial topics.

These results complement the data presented after a scientometric analysis and a national-level cross-sectional survey to analyze research and training activities on Clinical Risk Management issues within Italian SPHs. Data showed that 88% of the Italian SPHs perform research on Clinical Risk Management and that the most common way to teach Clinical Risk Management is through internships, while only 73% of the SPHs include lectures on this topic (24).

Several attempts have been made to increase the quality of the Specialization courses curricula in Italy. In particular, since 2017, a new accreditation system for the post-graduate activities of the Medical Schools has been introduced (6), in order to establish three principles: first, implementation of a continuous quality improvement system; second, development of networks of training structures possessing the minimum requirements; third, involvement of all the actors and the stakeholders. The National Observatory on the post-graduate Medical Schools takes care of the evaluation process in order to assign to the Specialization courses a full or a partial accreditation. The results of the first evaluation highlight that only 26 out of 38 (69%) of the Hygiene and Preventive Medicine Specialization courses received a full accreditation, while 10 (26%) received a partial accreditation and 2 (5%) of them were refused accreditation (25). This confirms that many differences among SPHs still exist.

Our study certainly presents some limitations: first, the participation of just half of the Directors, despite several solicitations. This could affect the significance of the comparison with the answers provided by the Residents, who, on the contrary, had very high response rate (30 of the 32 Schools). Nevertheless, the positive participation of the latter highlights the sincere desire to



contribute to a process of improvement. A second limit of the study refers to the topics listed in the questionnaire. They do not represent an exhaustive summary of the numerous areas, tools and issues on healthcare organization and management. Furthermore, very relevant topics (that might need an entire course to be addressed such as “Quality in healthcare”) are not distinguished in the scores, from simpler themes that can be addressed in a few hours of classroom activity or in one single seminar (such as “Meeting Management”).

In conclusion, a more comprehensive and homogeneous SPH training in Italy seems to be needed in order to improve the skills (theory and practice) in the areas of health-care organization and management of the new generations of MDs specialized in Public Health (“Igiene e Medicina Preventiva”). Furthermore, this study connects with: the European Directive 2005/36/EC on the automatic recognition of healthcare professional qualifications among Member States (26); the ASPHER European Core Competences for Public Health Professionals (ECCPHP) proposed by the Association of Schools of Public Health in the European Region (ASPHER) (27); and the European Action Plan for Strengthening Public Health Capacities and Services of the WHO Regional Committee for Europe (28). At the same time, at local level, SPHs should boost personalized learning opportunities, complementary to the core curriculum, through internships or courses attended outside the School. Due to the vast area of health organization and management, it remains important to foster individual propensities after the acquisition of a core competency, as already underlined (1, 29). Therefore, the first useful step – and the most obvious – would be a greater dialogue and exchange between Directors and Residents. Indeed, the sharing of knowledge certainly remains one of the key factors for a homogeneous education within the SPHs

(10). High participation of the Residents and the internal debate stimulated in the Schools are by sure strengths of this study. We hope that this article will contribute to improve managerial and organizational training of the future Italian Public Health Specialists.

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**Competing interest.** The authors declare that they have no competing interests

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**Author’s contributions.** The study was designed by MFM, AB, GV and CB. MFM, AB, GV provided and collected questionnaires and generated the dataset. MFM and AB performed the statistical analysis.

MFM, AB, GV and CB undertook data interpretation and manuscript preparation. All authors approved the final version of the paper

## Riassunto

*Valutazione delle competenze di management sanitario offerte dalle scuole italiane di specializzazione in igiene e medicina preventiva*

**Premessa.** La maggioranza dei neo-specialisti in Igiene e Medicina Preventiva trova spazio nel mondo del lavoro in posizioni che richiedono fin da subito spiccate capacità manageriali. Tuttavia, le competenze acquisite in questo ambito variano molto tra le varie Scuole. Scopo dello studio è andare a mappare la formazione dei Medici in Formazione Specialistica (MFS) in Sanità Pubblica, al fine di fornire un punto di partenza per migliorare e uniformare l’offerta formativa nell’ambito del management sanitario.

**Disegno dello studio.** Lo studio è un’indagine conoscitiva svolta tramite questionario inviato via mail ai MFS e ai Direttori delle Scuole di Specializzazione, tra Maggio e Novembre 2018. Il questionario è stato inviato alle Scuole accreditate e in cui erano attivi tutti e quattro gli anni di corso.

**Metodi.** Il questionario indaga il livello di approfondimento di 35 argomenti di ambito manageriale, suddivisi in 4 macro-aree, somministrato parallelamente a Direttori delle Scuole e ai MFS, chiedendo a questi ultimi un’uni-

ca compilazione collettiva per Scuola. I rispondenti potevano assegnare un punteggio da 1 (argomento non affrontato per nulla) a 4 (argomento affrontato in modo approfondito e collegato ad altri temi affini) a ogni tema, tenendo conto anche delle competenze acquisite con tirocini, seminari, ecc. e non solo con le lezioni, purché rivolti a tutti i MFS.

**Risultati.** Hanno risposto 30/32 (93,8%) Scuole per i MFS e 15/32 (46,9%) per i Direttori. I punteggi dei Direttori risultano più elevati rispetto a quelli dei MFS in ogni argomento e in 17/35 (48,6%) con differenza statisticamente significativa. Nei totali di 3 macro-aree (Ambiti generali, Strumenti manageriali e Macro-modelli organizzativi) su 4 si riscontrano differenze statisticamente significative. Nell'area Soft Skills i punteggi di tutti gli argomenti risultano bassi sia per Direttori che per i MFS.

**Conclusioni.** Lo studio evidenzia da parte dei MFS un forte bisogno formativo in ambito organizzativo e manageriale: la mediana dei punteggi attribuiti risulta pari o superiore a 3 (argomento affrontato in modo approfondito) solo in pochi casi. Il confronto tra i punteggi forniti dai Direttori e dai MFS permette di evidenziare una diversa percezione dell'offerta formativa. Lo studio può essere utile a stimolare il miglioramento della formazione manageriale dei giovani professionisti nei Corsi di specializzazione in Igiene e Sanità Pubblica.

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