



Survey on the Situation of Medical Departments in the Pharmaceutical Industry in Spain

Isabel Sanchez-Magro¹ · Susana Gomez-Lus² · Javier Martínez-González³ · Jorge Andrés Muñoz-Robles⁴ · Yolanda Riesgo⁵ · Beatriz Perez⁶ · Carlos Hagen⁷ · Pablo Viguera⁸

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Abstract

Introduction Medical departments have evolved from a position of support to one of strategic leadership. The number of tasks and the complexity of interactions in which they are involved is increasing. However, the spectrum of their activity in the sector differs significantly from one company to another. Therefore, the aim of this study was to describe their situation within the pharmaceutical industry, analyzing the positions, functions, and profiles of their professionals.

Methods This study consisted of an online survey containing 25 questions grouped into four blocks (structure, medical direction, training, and activities and responsibilities). Medical departments in the Spanish pharmaceutical industry of different sizes and scope were invited to participate. The survey took place in 2021, with a designated response period of three months. It is important to note that all responses collected during this time were treated as anonymous.

Results Thirty companies participated. A total of 93.3% of respondents worked for an international laboratory, with a size of 0–5 or 11–20 people (20.7%). For 27.6% of the companies, the number of medical advisors per medical department was 1 or 4, with varying numbers of medical scientific liaisons (1, 6–10, and > 20). A total of 56.7%, 33.3%, and 6.7% indicated that the country manager, head of regional medical affairs, and head of global medical affairs, respectively, had a solid-line reporting relationship with the medical directorate. Medical directors were mostly graduates in medicine (86.2%) with a doctorate (34.5%), and medical managers were mainly graduates in medicine (77.8%) and pharmacy (66.7%).

Conclusions This study reveals that respondents predominantly work in internationally focused laboratories, with professionals ranging from experienced medical directors to managers with 6–20 years of experience, each with distinct roles.

1 Introduction

Medical departments are key parts of pharmaceutical laboratories, assuming tasks related to information and scientific dissemination and interacting with health

professionals, health authorities, and centers of excellence in research and academia; in short, working transversally with all external stakeholders as well as with other departments within their own pharmaceutical company. Due to the changes that the pharmaceutical industry has been undergoing in recent years, derived from digitization and technological advances, medical departments have evolved from playing a supporting role to serving as strategic leadership [1, 2]. In addition, scientific evidence based on real-world experience is increasingly relevant, facilitating the determination of the impact of treatments for patients with conditions under routine clinical care [2, 3]. For this reason, it is increasingly important for the different professionals that compose medical departments to demonstrate communication, creativity, and innovation skills as well as transversal leadership and self-development, among other characteristics [1]. Part of the work carried out by medical departments consists of disseminating and generating scientific evidence, which requires working closely with

✉ Isabel Sanchez-Magro
isabel.sanchez-magro@merckgroup.com;
isabelsmagro0511@gmail.com

¹ Merck, María de Molina, 40, 28006 Madrid, Spain

² Lundbeck, Madrid, Spain

³ Laboratorios Farmacéuticos Rovi, Madrid, Spain

⁴ Daiichi Sankyo, Madrid, Spain

⁵ Norgine Spain & Portugal, Madrid, Spain

⁶ Roche, Madrid, Spain

⁷ Palex Medical, Madrid, Spain

⁸ Kyowa Kirin, Madrid, Spain

Key Points

The number of professionals in medical departments within the pharmaceutical industry in Spain has increased, indicating a growing focus on patient-centered care and excellence in activities execution.

Medical directors typically have strategic functions, medical advisors manage opinion leaders and generate evidence, while Medical Science Liaisons (MSLs) collect insights and manage Key Opinion Leaders (KOLs).

The role of medical affairs is evolving, with a focus on integrating data analysis and digital participation to improve patient access to treatments and enhance clinical and economic value.

There is a need for clarity on the value and mission of medical departments within the industry, with a call for the Association of Physicians of the Pharmaceutical Industry (AMIFE) to create a manifesto highlighting the fundamental attributes that provide value to patients and society.

The strategic role of medical departments within the pharmaceutical industry should be emphasized, with a shift towards generating robust, patient-centered data models to accelerate patient access to treatments and improve health outcomes.

medical, academic, and scientific societies, accessing and acting as a link between the medical community and the company [4].

Medical departments are composed of professionals with training in health sciences and, in many cases, with doctorate and/or postgraduate degrees. This training facilitates the exchange of scientific information. Some of the roles within medical departments are aimed at establishing relationships and facilitating the exchange of knowledge and the generation of data with and among health professionals [5].

Medical science liaisons (MSLs) are more linked to a field role, typically with a specific geographical distribution, interacting with key health professionals in a given territory. This role is essential in communicating with key opinion leaders (KOLs), helping to implement the company's strategy, and regional and local medical projects [1, 6]. Their role, which is not promotional by definition, allows them to carry out their communicative function, exchange scientific information, be highly specialized and have expertise in their therapeutic area or product of responsibility, and act as facilitators from the earliest stages of the development of a drug [6]. Other figures within medical departments, such

as medical advisors and medical affairs managers, usually have their base at the central company office, and design and implement medical affairs plans and interact with other departments (marketing, registries, market access, etc.) as well as opinion leaders, especially those at the national and international levels. In addition, medical advisors usually participate in the generation of scientific evidence through studies and research projects.

There are also other functions focused on strategic leadership and team management to achieve objectives such as strategic areas and medical operations. In short, scientific, business, and leadership knowledge are the most common skills and competencies among the professionals within medical departments.

Notably, medical departments integrate other relevant roles and areas, such as medical information and scientific documentation, that provide reliable, truthful, balanced, and impartial information to healthcare professionals and patients about the products that the company develops and markets. In addition, responsibilities such as relationships with academia, health and research institutions, and projects and programs to support patients can be integrated into the functions of medical departments.

The aim of this study was to examine the current situation of medical departments within the Spanish pharmaceutical industry [5], specifically to analyze positions and describe the functions and profiles of the professionals who compose them, as well as the relationship of these professionals with other departments and other actors outside the company.

2 Methods

Information on the structure of the medical departments of the pharmaceutical industry in Spain was collected from the Board of Directors of the Association of Medicine of the Spanish Pharmaceutical Industry (AMIFE), associate medical directors and staff of the organization's board of directors, including the organization, as well as the number and training of their members. Additionally, the reporting lines within these departments were analyzed.

After analyzing the information, a survey composed of 25 questions (Table 1) grouped into four blocks, i.e., company structure, medical direction, training, and activities and responsibilities, was designed and shared via SurveyMonkey with 65 medical directors of pharmaceutical companies, from a list of members of the AMIFE association attached to the working group of medical directors. The decision to send the survey only to medical directors since they are the ones who know the internal data of each medical department.

The survey was conducted in 2021, and the allowed response time was 3 months, during which time monthly reminders were made. All collected responses were

anonymous. After that period, data were collected and analyzed to make a report.

3 Results

Responses were obtained from 30 participants. The vast majority of respondents worked for an international laboratory (93.3%, $n = 28$), with medical departments ranging in size from 0 to 5 and from 11 to 20 people (20.7%, $n = 6$ for both cases; Table 2). A total of 37.9% ($n = 11$) and 55.6% ($n = 15$) of the respondents indicated that between 0 and 10 people were based in the office or in the field, respectively; those percentages decreased to 17.2% and 18.5% ($n = 5$ for both cases) when the number of workers ranged from 11 to 20 people. For one medical department (3.4%), all the workers carried out their activities from the office (Fig. 1).

A total of 27.6% ($n = 8$) of the respondents indicated that their company had one or four medical advisors per medical department, and a minority indicated the presence of more than five of this type of professional (6.9%, $n = 2$). For the MSL role, there was greater variability, with 1, 6–10, and

> 20 being the most common responses (18.5%, $n = 5$ for all; Fig. 2).

Regarding reporting and individual in charge, i.e., medical director, 56.7% ($n = 17$) of the respondents indicated that the medical director had a solid-line reporting relationship with the director general of the country (direct report between the supervisor and the worker); 37.0% ($n = 10$) of the respondents indicated a dotted-line reporting relationship (functional report to the supervisor). For the head of regional medical affairs and the head of global medical affairs, the percentages were 33.3% ($n = 10$), and 25.9% ($n = 7$), and 6.7% ($n = 2$), and 22.2% ($n = 6$) for solid-line and dotted-line reporting, respectively. Relatedly, 96.4% ($n = 27$) of the respondents indicated that the medical affairs department reported to the medical directorate (Fig. 3).

According to the data collected, which more than one option could be selected by respondents, medical directors were mostly graduates in medicine (86.2%, $n = 25$), followed by those with a doctorate (34.5%, $n = 10$). Regarding medical managers, 77.8% ($n = 21$) and 66.7% ($n = 18$) had degrees in medicine and pharmacy, respectively. Regarding the training of personnel in different roles within

Table 1 Questions included in the questionnaire

Block	Question	
Structure	1. Number of people in the medical department	
	2. Number of office-based personnel	
	3. Number of field-based personnel	
	4. Number of medical advisors in the medical department	
	5. Number of medical scientific liaisons	
	6. Solid-line reporting	
	7. Dotted-line reporting	
Medical direction	8. Areas that report to the medical department	
	9. Number of medical managers or area managers	
Training	10. Training of the medical director	
	11. Years of experience of the medical director in the pharmaceutical industry	
	12. Training of medical managers or responsible for areas	
	13. Years of experience of medical managers or area managers in the pharmaceutical industry	
	14. Training of medical advisors/medical affairs managers	
	15. Training of medical scientific liaisons	
	16. Training of those responsible for medical information	
	17. Training of those responsible for pharmacovigilance if they are in the medical department	
	18. Training of those responsible for market access area if they are in the medical department	
	19. Training of those responsible for clinical operations if they are in the medical department	
	20. Training of those responsible for records if they are in the medical department	
	21. Training of those responsible for patient advocacy if they are in the medical department	
	Activities and responsibilities	22. What is the most relevant or strategic function of the medical department?
		23. What is the most relevant or strategic role of the medical director?
		24. What is the most relevant or strategic role of the medical advisor?
25. What is the most relevant or strategic function of medical science liaisons?		

Table 2 Characteristics of the laboratories

	<i>n</i> (%)
<i>Laboratory scope</i>	
International	28 (93.3)
National	2 (6.7)
<i>Number of people in the medical department¹</i>	
From 0 to 5	6 (20.7)
From 6 to 10	1 (3.5)
From 11 to 20	6 (20.7)
From 21 to 30	4 (13.8)
From 31 to 40	3 (10.3)
From 41 to 50	1 (3.5)
From 51 to 75	2 (6.9)
From 76 to 100	3 (10.3)
More than 100	3 (10.3)

¹No response was obtained from $n = 1$ participant

medical departments, medical advisors, mainly had training in medicine (82.1%, $n = 23$), pharmacy (75.0%, $n = 21$), and biology (57.1%, $n = 16$), and many (50.0%, $n = 14$) had a doctorate. Regarding medical scientific liaisons, the vast majority were pharmacists (75.0%, $n = 21$), followed by biologists and professionals with doctorates (57.1%, $n = 16$

for both cases), biotechnologists (50.0%, $n = 14$), and physicians (46.4%, $n = 13$). Regarding those responsible for medical information, most were trained in pharmacy (56.0%, $n = 14$) and biology (36.0%, $n = 9$), and for those who worked in the area of pharmacovigilance, the majority were trained in pharmacy (81.8%, $n = 18$). Finally, for those responsible for market access, clinical operations, records area, and patient advocacy, most had another type of training (88.9%, $n = 8$), training in pharmacy or biology (52.9%, $n = 9$ for both), training in pharmacy (68.8%, $n = 11$), and training in other training courses (60.0%, $n = 6$), respectively (Fig. 4).

Regarding years of experience of medical directors and medical managers, for the former, 48.3% ($n = 14$) had more than 20 years of experience in the pharmaceutical industry, and for the latter, most had between 6 and 10 years of experience in the sector (53.6%, $n = 15$; Fig. 5).

Finally, when asked about the main tasks in medical departments, as a whole, most were dedicated to designing medical strategies (93.3%, $n = 28$), generating evidence (76.7%, $n = 23$), and managing opinion leaders (66.7%, $n = 21$). Regarding the main roles, the main task of medical directors was designing medical strategies (96.4%, $n = 27$), that of medical advisors was managing opinion leaders and generating evidence (77, 8%, $n = 21$ for both) and that of MSLs was managing opinion leaders (96.3%, $n = 26$; Fig. 6).

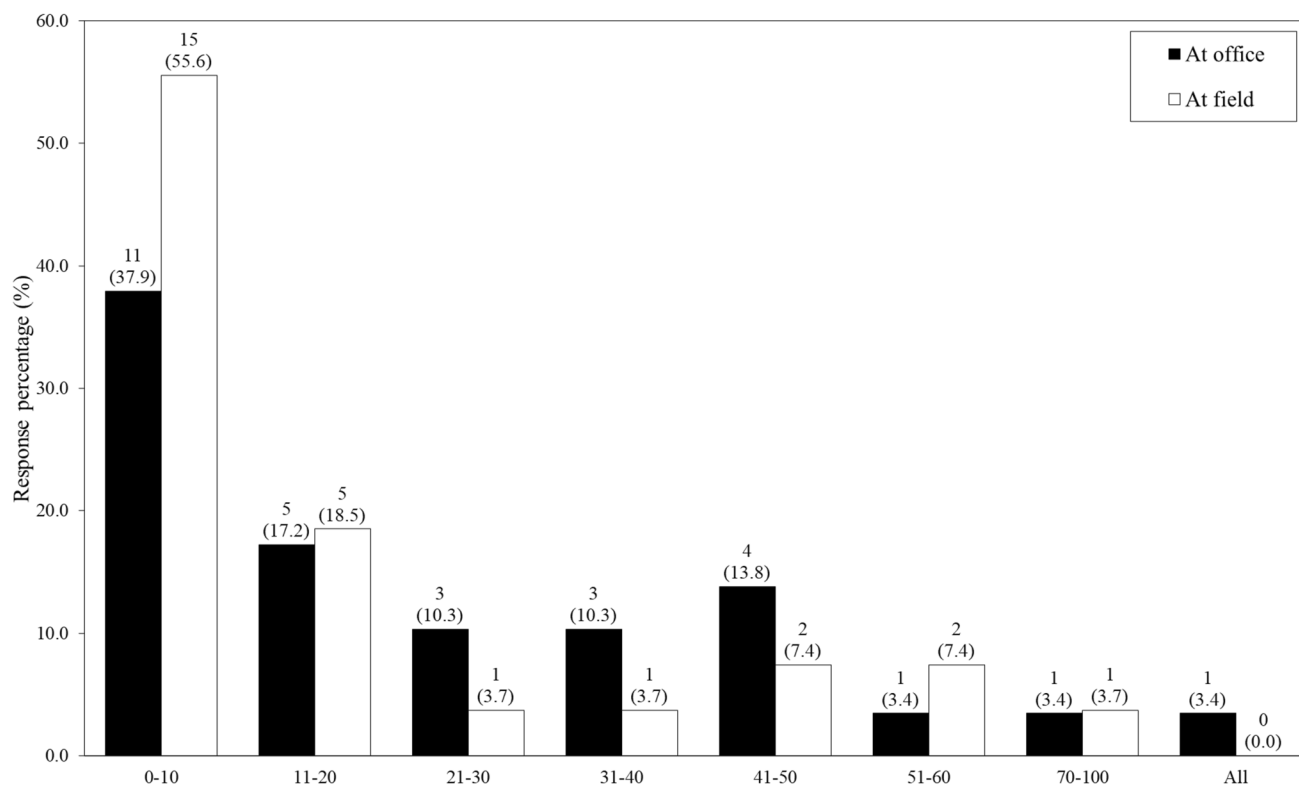


Fig. 1 Type of staff by number of people in the company. The values represent the percentage, with the total number of responses in parentheses. No response was obtained from $n = 1$ and $n = 2$ participants for questions pertaining to “in the office” and “in the field,” respectively

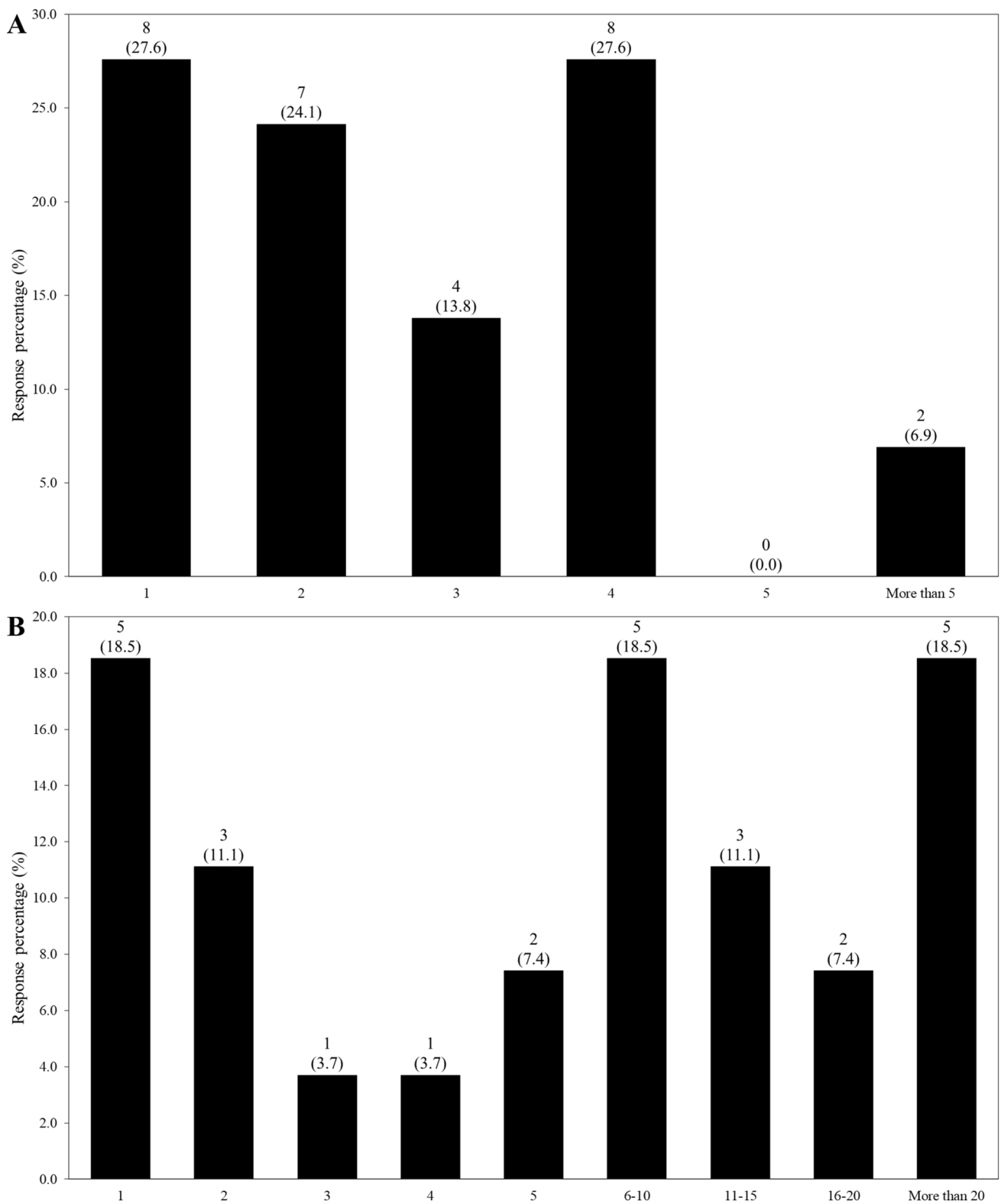


Fig. 2 Number of medical advisors (**A**) and medical liaisons (**B**) in medical departments. The values represent the percentage of the total, with the number of responses in parentheses. For “medical advisor” and “medical liaison”, $n = 1$ and $n = 3$ respondents did not respond, respectively

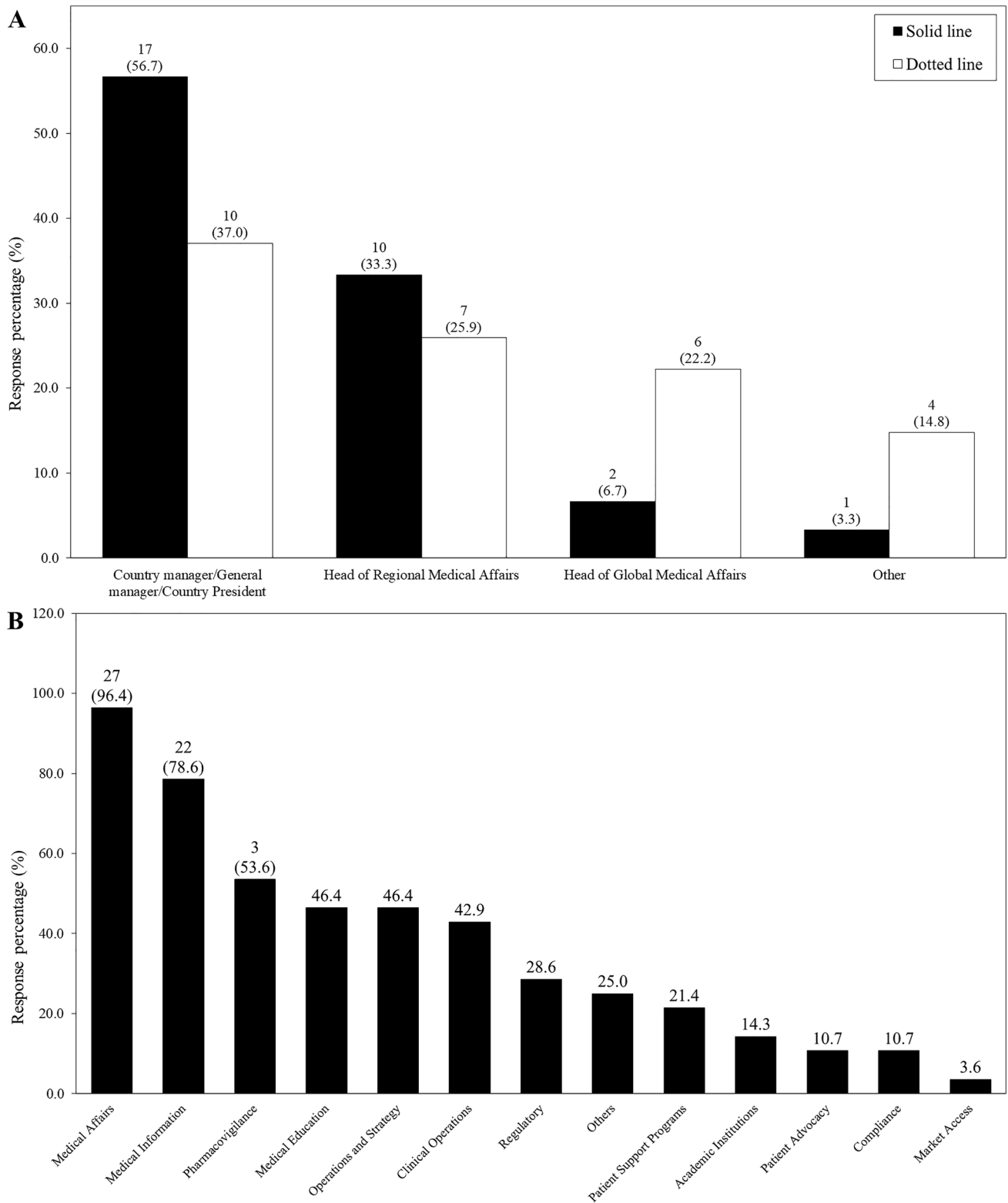


Fig. 3 Type of medical management reporting (**A**) and areas that report to medical departments (**B**). The values represent the percentage of the total, with the number of responses in parentheses. No

response was obtained from $n = 3$ and $n = 2$ participants for “dotted-line” reporting and “areas that report to the medical director,” respectively

4 Discussion

To our knowledge, this is the first study to analyze both the structure and the situation of medical departments in the pharmaceutical industry, focusing on the different positions, functions, and profiles of the professionals who belong to it. The results presented in this study indicate that most of the respondents work in laboratories with an international scope with medical departments composed of teams of mainly up to five workers or between 11 and 20 people. Generally, these departments include up to four Medical Advisor positions, with the number of MSLs being more variable (mainly 1, between 6 and 10, or more than 20). Most respondents indicated that the Medical Affairs and Medical Information departments report to the Medical Directorate, with Pharmacovigilance, Operations and Strategy, Medical Education, and Clinical Operations also reporting to the Medical Directorate in some cases. In terms of the profiles of the different professionals, the Medical Director is usually a medical graduate with more than 20 years of experience, the Medical Manager a medical or pharmacy graduate with between 6 and 20 years of experience, the Medical Advisor a medical, pharmacy, or biology graduate, with approximately half

holding a PhD, the MSL mostly a biology graduate, and the Medical Information and Pharmacovigilance Technicians a pharmacy graduate, with some cases of biology graduates in the first case. Finally, regarding the roles of the different positions, the Medical Director generally has strategic functions, the Medical Advisor has KOL management and evidence generation functions, and the MSL is responsible for insights gathering as well as KOL management.

In 2013, AMIFE carried out a survey among its partners to determine the formation of roles. The survey herein was designed to collect data on and analyze both the structure and the situation of medical departments in the Spanish pharmaceutical industry, focusing on the different positions, functions, and profiles of professionals. In that year there was a change of technical secretariat within AMIFE, with the new members deciding to carry out a study with the data available at that time in the organization’s database. Through that internal and unpublished study, it was observed that the available information was scarce. Therefore, when the working group of medical directors, composed of 65 medical directorates of the Spanish pharmaceutical industry, was created in 2019, they began to develop projects to increase the information on the structure, organization, number of

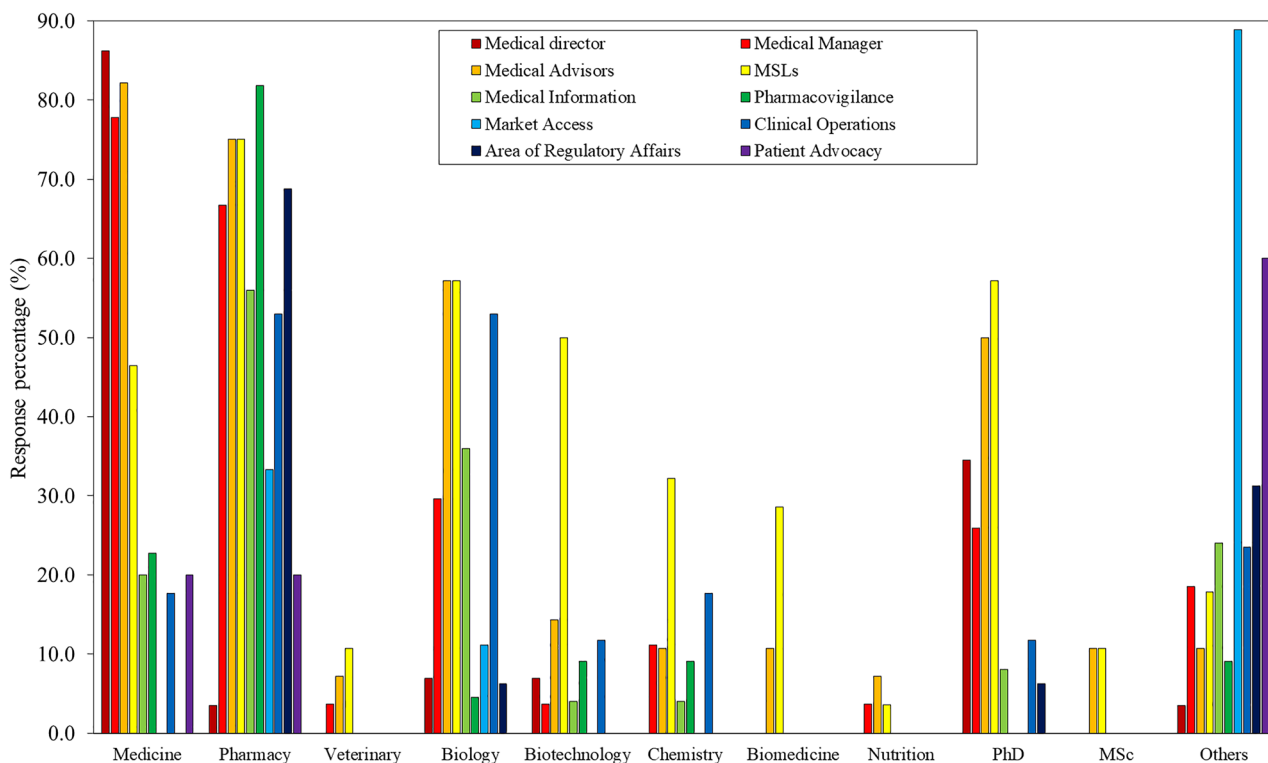


Fig. 4 Training of medical directors, medical managers, medical advisors/medical affairs managers, medical science liaisons (MSLs), and those responsible for medical information, pharmacovigilance, market access, clinical operations, records, and patient advocacy. The values represent the percentage of the total, with the number of responses in parentheses. No response was obtained from $n = 3$ for

“medical manager,” $n = 2$ for the “medical advisor/medical affairs manager,” $n = 2$ for “MSL,” $n = 5$ for “medical information,” $n = 8$ for “pharmacovigilance,” $n = 21$ for “market access,” $n = 13$ for “clinical operations,” $n = 14$ for “records,” and $n = 20$ for “patient advocacy”

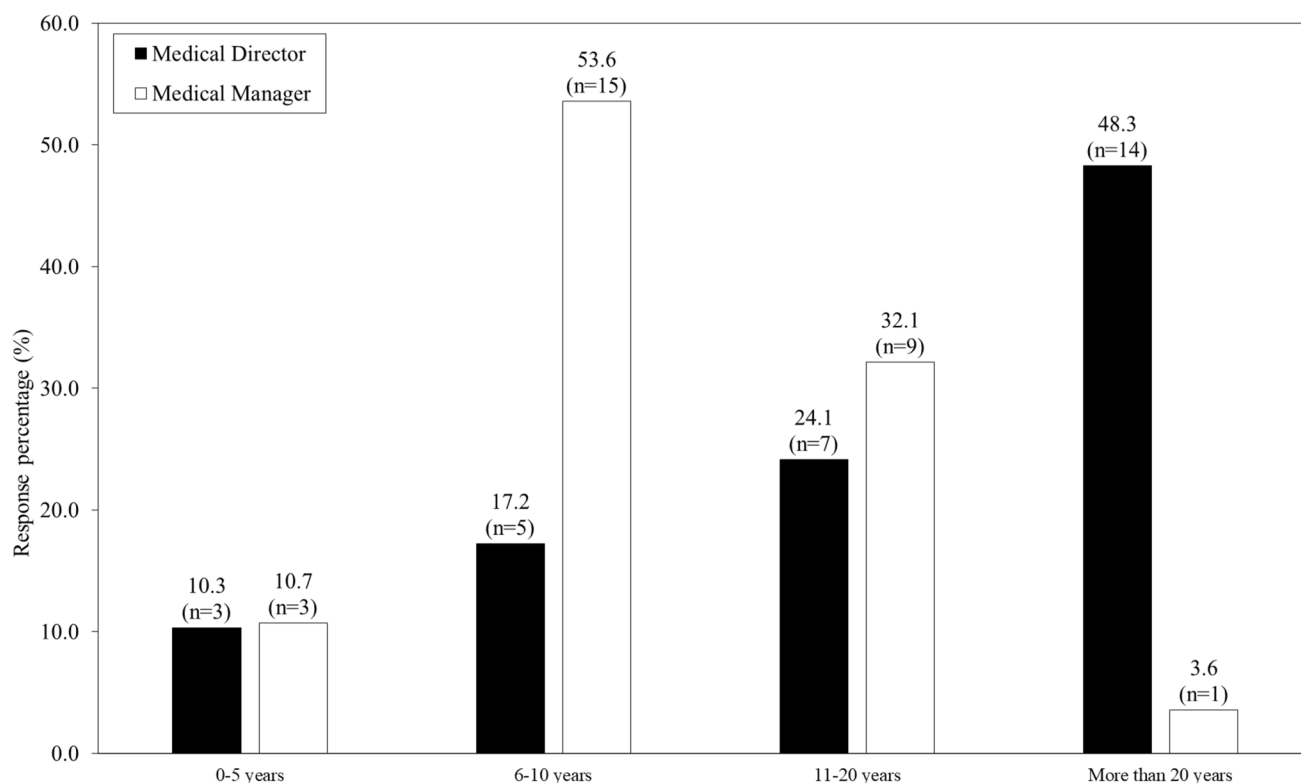


Fig. 5 Years of experience of medical directors and medical managers. The values represent the percentage of the total, with the number of responses in parentheses. For years of experience of the “medi-

cal director” and “medical manager”, $n = 1$ and $n = 2$ respondents, respectively, did not respond

professionals, and their training and reporting lines within these departments, among which is this study. In fact, the data presented here represent for the first time that a rigorous study has been performed which includes this type of information, which will serve as the basis and commitment of the working group to update and enrich this knowledge on a regular basis.

The results of this study indicate that most of the respondents worked in pharmaceutical companies with an international scope and that medical departments were composed of teams mainly of up to 5 people or between 11 and 20 people. These departments generally included up to four medical advisor positions; the number of MSLs was more variable. Most of the respondents indicated that the medical affairs and medical information departments reported to the medical directorate, as did the pharmacovigilance, operations and medical strategy, medical education departments, and in some cases, the clinical operations department.

The profiles of the different professionals varied by different positions, with most being graduates in medicine, pharmacy, or biology.

Finally, regarding the roles of different positions, medical directors generally had strategic functions, medical advisors managed opinion leaders and generated

evidence, and MSLs collected insights and managed KOLs. Recently, a report by the consulting firm *McKinsey & Company*, designed to predict the evolution of the role of medical affairs in the coming years, indicated that certain aspects of medical department activities should be updated. Such activities include the integration of data analysis and digital participation [7].

In the coming years, evidence generated from phase IIIb and IV studies, from real-life data, and from health systems and pharmacoeconomics will be of vital importance for microanalyses of information that consider the individual needs of patients. In this process, medical affairs teams, thanks to their in-depth knowledge of the scientific field, access to data, and their close relationship with stakeholders, will be well positioned to find the evidence needed to improve the health of patients. The generation of these robust and patient-centered data models will accelerate patient access to treatments, realizing clinical and economic value so that each patient receives the most correct drug at the most appropriate time.

Medical departments should transform and personalize interactions with health professionals, health and academic authorities, research centers, scientific societies, and patient associations based on their needs, incorporating tools and

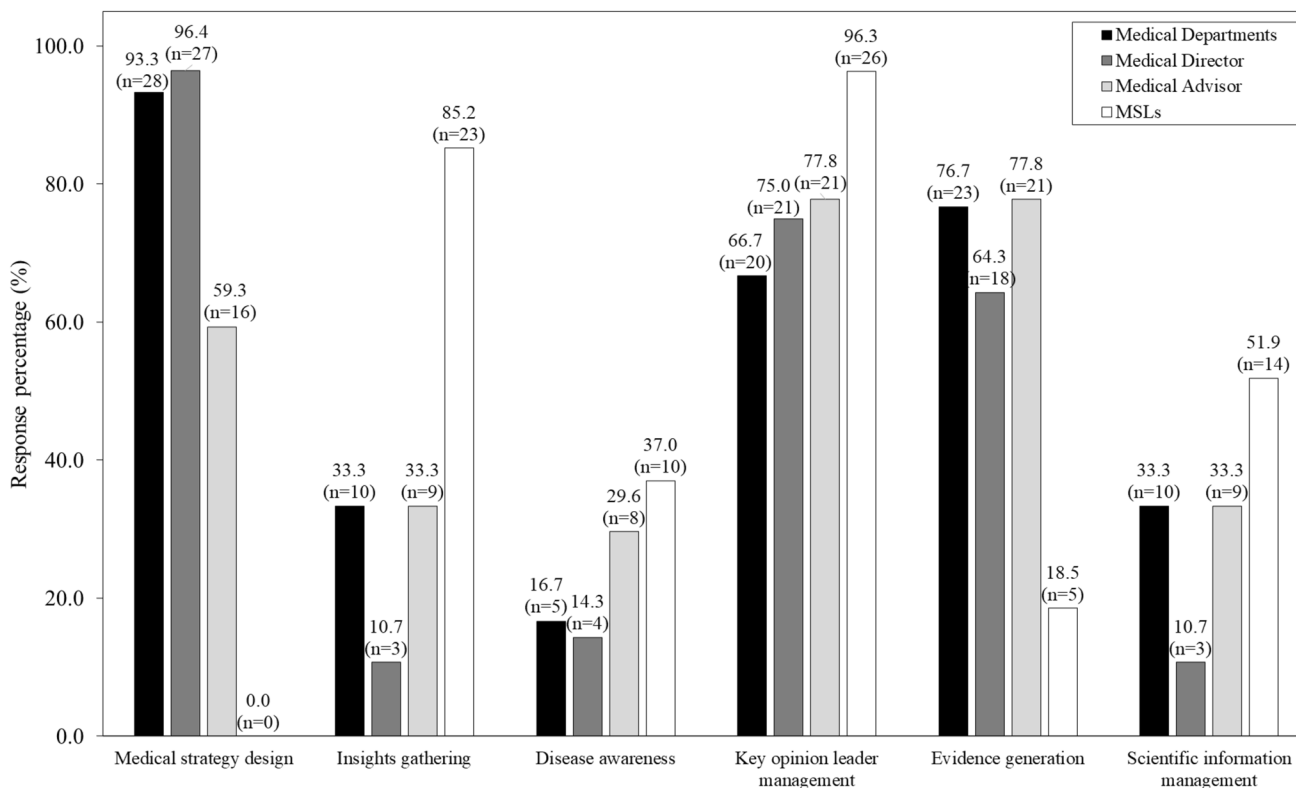


Fig. 6 Most relevant or strategic role of medical departments, medical directors, medical advisors, and medical science liaisons (MSLs). The values represent the percentage of the total, with the number of

responses in parentheses. No response was obtained from $n = 3$ participants for “medical director,” “medical advisor,” and “MSL”

digital contacts designed to provide specific information, support tools, and innovative techniques in the field of training and scientific information.

An intensification of the work of the medical department is recommended to better provide a medical strategy that aligns with the needs of companies. This transformation will allow professionals within medical departments to change public opinion of the industry, bringing patients to the forefront and rethinking the measurements of the performance and activities of companies by focusing on patients. This transformation is expected to occur through the acquisition and development of human talent within the medical area and through an approach to the management and distribution of resources focused on individual patients. Individuals who work within medical departments should not only have excellent technical skills and competencies, such as leadership, communication skills, and teamwork, but also be capable of sufficiently managing new health technologies.

The transformation and evolution of medical departments in the industry has led to the emergence of new roles, such as those of strategy and medical operations, whose function varies based on the structure of each company but usually includes medical excellence aspects (KPIs and dashboards for monitoring medical activity and the collection of

insights) and the creation and facilitation of tools (including digital tools) for medical teams and the incorporation of project management functions in projects within the medical department itself and in strategic transversal projects of companies through medical affairs.

Due to the different currents and restructuring that have occurred in different companies in the sector and that have generated some confusion about the value and mission of medical equipment within the industry, it is important for the Association of Physicians of the Pharmaceutical Industry (AMIFE) to create a manifesto (Online Resource 1) that highlights the main attributes that provide fundamental value, not only for the industry, but also for the ultimate beneficiaries, i.e., patients and society.

5 Conclusions

The data produced by this study indicate that the number of professionals working in medical departments within the pharmaceutical industry has increased and that new areas of knowledge have been created that focus on patients and excellence in the execution of activities. These changes are indicative of the strategic role of medical departments within the pharmaceutical industry.

Supplementary Information The online version contains supplementary material available at <https://doi.org/10.1007/s40290-024-00517-y>.

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Declarations

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Conflict of interest Isabel Sanchez-Magro works for Merck Spain, Susana Gomez-Lus works for Lundbeck, Javier Martínez-González works for Laboratorios Farmacéuticos Rovi Spain, Jorge Andrés Muñoz-Robles works for Daiichi Sankyo Spain, Yolanda Riesgo works for Norgine Spain and Portugal, Beatriz Perez works for Roche, Carlos Hagen works for Palex Medical, and Pablo Viguera works for Kyowa Kirin.

Ethics approval Not applicable.

Consent to participate Not applicable.

Consent for publication Not applicable.

Availability of data and material Authors can share the data on reasonable request.

Code availability Not applicable.

Author contributions All authors contributed equally to this work.

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