

Performance and challenges of the Biomedical Professional in the Pharmaceutical Industry as a Medical Science Liaison (MSL)

Atuação e desafios do profissional biomédico na indústria farmacêutica como medical science liaison (MSL)

Papel y desafíos del profesional biomédico en la industria farmacéutica como enlace de ciencia médica (MSL)

RESUMO

Para estar-se apto ao cargo de Medical Science Liaison (MSL) nas indústrias farmacêuticas, é necessário que o profissional tenha formação científica e prévia experiência atuando no ramo médico e farmacêutico. O cargo de MSL foi ocupado pela primeira vez na Upjohn Company em 1967, com a necessidade de um profissional com maior aprofundamento sobre temas relacionados à pesquisa e à ciência, e portanto, o pré-requisito para candidatar-se a esta vaga no passado era ter formação superior completa no curso de Medicina. 1-5 Com o tempo, o perfil e as qualificações dos MSL's no Brasil mudaram, este estudo tem como objetivo identificar a atuação e desafios do profissional biomédico na indústria farmacêutica atuando na profissão de Medical Science Liaison (MSL). Especificamente, buscam-se analisar quais são os perfis dos atuais profissionais MSL's no mercado de trabalho das diversas indústrias farmacêuticas, nacionais e multinacionais. Para isto, foi realizado uma pesquisa de campo com profissionais convidados que atuam nesta profissão, os dados deste estudo foram coletados por meio do questionário aberto no dia 15/12/2022 com fechamento na data de 15/02/2023. A pesquisa obteve 32 respostas, posteriormente, foram sintetizados gráficos que apontam diversas oportunidades do biomédico em exercer a função de MSL (Medical Science Liaison), e também enfatiza o novo cenário brasileiro em 2023 com menos médicos atuando neste segmento (apenas 3,1% dos respondentes).

DESCRIPTORIOS: medical science liaison, msl, biomédico, indústria farmacêutica, profissão

ABSTRACT

To qualify for the position of Medical Science Liaison (MSL) in the pharmaceutical industry, the professional must have scientific training and previous experience working in the medical and pharmaceutical field. The MSL position was occupied for the first time at the Upjohn Company in 1967, with the need for a professional with greater depth on topics related to research and science, and therefore, the prerequisite to apply for this vacancy in the past was to have complete higher education in the medical course. 1-5 Over time, the profile and qualifications of MSL's in Brazil have changed, this study aims to identify the performance and challenges of the biomedical professional in the pharmaceutical industry working in the profession of Medical Science Liaison (MSL). Specifically, we seek to analyze what are the profiles of current MSL professionals in the labor market of the various pharmaceutical industries, national and multinational. For this, a field survey was carried out with invited professionals who work in this profession, the data of this study were collected through the questionnaire opened on 12/15/2022 and closed on 02/15/2023. The survey obtained 32 responses, later, graphs were synthesized that point to several opportunities for the biomedical to exercise the role of MSL (Medical Science Liaison), and also emphasizes the new Brazilian scenario in 2023 with fewer doctors working in this segment (only 3.1% of respondents).

DESCRIPTORS: medical science liaison, msl, biomedical, pharmaceutical industry, profession

RESUMEN

Para ser elegible para el puesto de Enlace de Ciencias Médicas (MSL) en las industrias farmacéuticas, el profesional debe tener formación científica y experiencia previa trabajando en los sectores médico y farmacéutico. El cargo de MSL se ocupó por primera vez en Upjohn Company en el año 1967, existiendo la necesidad de contar con un profesional con mayor conocimiento profundo en temas relacionados con la investigación y la ciencia, por lo que el requisito previo para postular a este cargo en el pasado era tener educación superior completa en la carrera de Medicina. 1-5 Con el tiempo, el perfil y las calificaciones de los MSL en Brasil han cambiado, este estudio tiene como objetivo identificar el papel y los desafíos del profesional biomédico en la industria farmacéutica que actúa en la profesión de Ciencias Médicas. Enlace (MSL). En concreto, buscamos analizar los perfiles de los profesionales de MSL actuales en el mercado laboral de las distintas industrias farmacéuticas, nacionales y multinacionales. Para ello se realizó una encuesta de campo a profesionales invitados que se desempeñan en esta profesión. Los datos para este estudio fueron recolectados a través de un cuestionario abierto el 15/12/2022, cerrándose el 15/02/2023. La encuesta obtuvo 32 respuestas, posteriormente, se sintetizaron gráficos que señalan varias oportunidades para que los profesionales biomédicos ejerzan el rol de MSL (Enlace de Ciencias Médicas), y también destaca el nuevo escenario brasileño en 2023 con menos médicos trabajando en este segmento (sólo 3,1 % de encuestados).

DESCRIPTORIOS: enlace ciencia médica, msl, biomédica, industria farmacéutica, profesión.

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Ana Julia Di Lallo Vieira

Biomedical specialist in aesthetic biomedicine trained through the university center of the united metropolitan colleges (FMU)



Caroline de Campos Grossi

Biomedical specialist in clinical pathology and aesthetic biomedicine through the University Center of the United Metropolitan Colleges (FMU). Postgraduate in imaging diagnosis and radiotherapy from the São Camilo university center. Nursing student through the University Center of the Americas (FAM).

INTRODUCTION

To be qualified for the position of Medical Science Liaison (MSL) in Brazilian and/or multinational pharmaceutical companies, the professional must have a scientific background and previous experience working in the medical and/or pharmaceutical field. Technical communication skills are a plus, given that this profession requires constant exchange of technical and scientific information between the company and professionals working in the health sector, most of whom are doctors.

The MSL position was first filled by the pharmaceutical company Upjohn Company in 1967, when there was a need for a more scientific professional who could guide the sales force (promoters, representatives, managers) on topics related to research and science. Therefore, the prerequisite for applying for this position in the past was to have completed a higher education degree in Medicine.¹⁻⁵

In Brazil, the first professionals in the MSL position appeared in the 90s, at the time the multinational pharmaceutical industries required as a prerequisite that this professional had a CRM, that is, that he had completed higher education in Medicine.⁴ Such opportunities were attractive, both for newly graduated doctors and for more experienced ones, who saw in the new profession an opportunity to enter the pharmaceutical industry.

Over time, the profile and qualifications of MSLs in Brazil have changed. In the past, such professionals were exclusively doctors, as previously stated.

However, in a salary survey conducted by from Science to Pharma, when winning the first vacancy as an MSL in the region of Brazil, 17% of MSLs have a bachelor's degree, 33% a master's degree, and the majority, 39%, a post-doctorate.⁶



In a survey carried out by the Brazilian Society of Clinical Research Professionals - SBPPC, the majority of MSLs have degrees in Biology/Biomedicine, representing 54% of professionals, in Pharmacy representing 19% of professionals and in Medicine representing 19% of professionals.⁷



These data reinforce that the MSL profession is a new career opportunity for a broad group of people in Brazil, including the various researchers (PhD), masters and biomedical professionals that the country has, totaling approximately 218,287 professionals.⁸⁻⁹

Considering that this position was recently created in Brazil (in historical terms compared to other professions) and is constantly modernizing, many pharmaceutical industries today are not limited to hiring only doctors to perform this function, as in the past. Biomedical professionals are also targeted by Headhunters to perform this role in companies.

This research was encouraged due to the new scenario in the pharmaceutical industry, resulting in a new perspective for recruiters, where the Medical Science Liaison (MSL) professional who is not a doctor, but mostly has a master's and/or doctorate, can replace the doctor without the quality of their work being impacted.

According to a survey carried out during the months of August and December 2022 using the largest professional network in the world, LinkedIn, 10 when observing the prerequisites of 10 (ten) open positions for the MSL position, we noticed that only 1 (one) required a medical professional and 9 (nine) required a professional trained in the health area (including the biomedical professional).

COMPANY:	RESEARCH DATE	PREREQUISITE FOR MEDICAL SCIENCE LIAISON (MSL) POSITION:
VERTEX	06/12/2022	Degree in biomedicine or life sciences
MSD	06/12/2022	Complete training in higher education courses in the health sector
NOVARTIS	06/12/2022	Training in the health sector (biomedical, medical, pharmacist, biologist...)
ZAMBON	06/12/2022	Complete higher education in the health sector
IPSEN	06/12/2022	Complete higher education in life sciences
SANOFI	06/12/2022	Complete higher education in the health sector
ASTRAZENECA	20/08/2022	Complete higher education in the health sector
LILLY	20/08/2022	Undergraduate degree in the health sector (medicine, biology, biomedicine, pharmacy or nutrition)
TAKEDA	20/08/2022	Academic background: medicine, biology, pharmacy, biomedicine,...)
BOEHRINGER INGELHEIM	20/08/2022	Training in Medicine

Therefore, the objective of this in-depth study is to investigate, through field research, the characteristics of the pharmaceutical market for this position (national and international market), and the professionals who currently occupy these positions.

The analysis of the responses obtained in this questionnaire aims to promote reflection on the career possibilities in the pharmaceutical industry for biomedical professionals, with an emphasis on the Medical Science Liaison (MSL) profession. In order for this analysis to be completed, at least 30 professionals who received the invitation to participate in the field research had to collaborate with their respective responses voluntarily.

METHODS

To analyze the profiles of current MSL professionals in the Brazilian job market, a field survey on the topic was created using the Google Forms platform with strategic questions to further explore the subject. The form was opened with 25 questions, 24 of which were mandatory to obtain the expected result.

DISCUSSION

The survey received 32 responses, and graphs were subsequently synthesized that indicate several opportunities for biomedical professionals to perform the role of MSL (Medical Science Liaison).

According to Figure 1, more than 50% of the respondents to the field survey are pharmacists, the second largest group of respondents with the same degree is composed of 15.6%, who are biomedical professionals. This graph indicates the opportunity for biomedical professionals to perform the role of MSL (Medical Science Liaison), and also emphasizes the new scenario with fewer doctors working in this segment (only 3.1% of respondents).

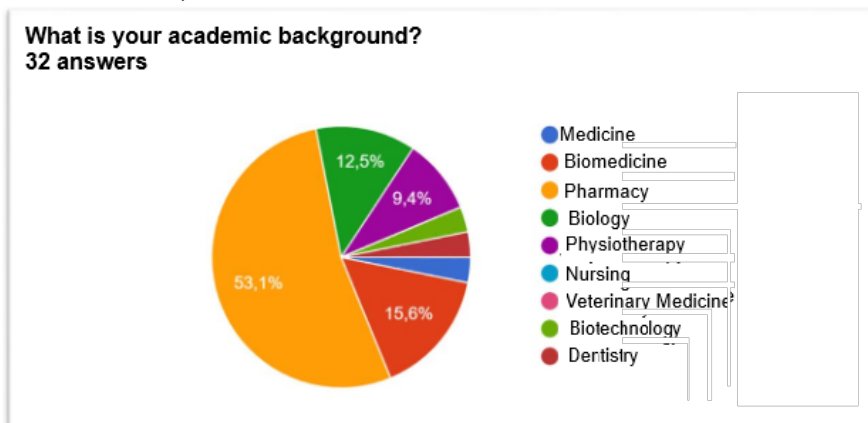


Figure 1. Question "1" field research "Performance and Challenges of the Biomedical Professional in the Pharmaceutical Industry as a Medical Science Liaison (MSL).

According to Figure 2, 87.50% of respondents have some type of postgraduate degree. This graph reveals that most of the current MSL professionals who participated in the survey have completed several types of postgraduate degrees, thus, only 12.5% have only completed an undergraduate degree. This result highlights the greater chances of becoming an MSL if one has an academic life beyond the undergraduate degree.

Analyzing the results of the graph shown in Figure 3, 59.4% of respondents found out about the vacancy through referrals or already worked in the pharmaceutical industry. This data shows a scenario of greater opportunities for professionals who are already working in areas and companies close to the Medical Science Liaison (MSL) professional. It is possible to observe that only 25% of professionals found out about the vacancy through professional networks or were contacted directly by Head Hunters or the company's HR, reinforcing the greater difficulty in inserting new professionals into the pharmaceutical industry, especially for the Medical Science Liaison (MSL) position.

According to Figures 4 and 5, the results also indicated the influence of the year of training and career time as an MSL, where 71.9% have between 1 and 10 years in the position and 84.4% of respondents completed their degree between 2000 and 2021. It can be concluded that because this is a profession that emerged in the mid-90s in Brazil, there is a greater number of professionals who graduated recently and have been working as a Medical Science Liaison (MSL) for less than 10 years. The field research indicated that only 6.3% of respondents have been in this role for more than 10 years (as shown in Figure 4).

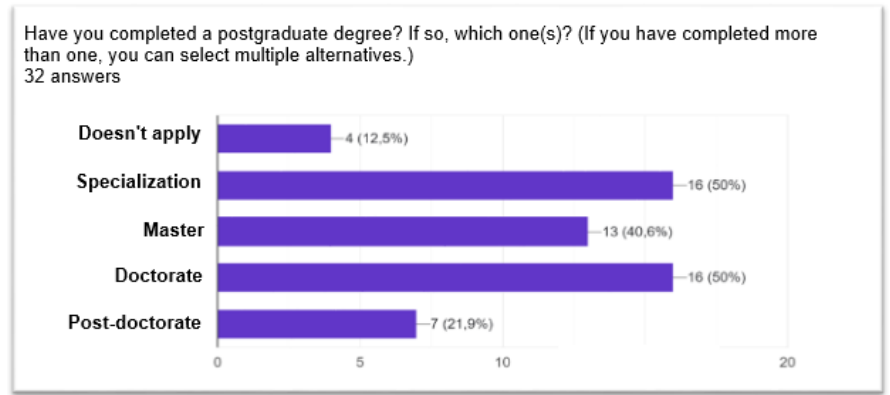


Figure 2. Question "3" field research "Performance and Challenges of the Biomedical Professional in the Pharmaceutical Industry as a Medical Science Liaison (MSL).

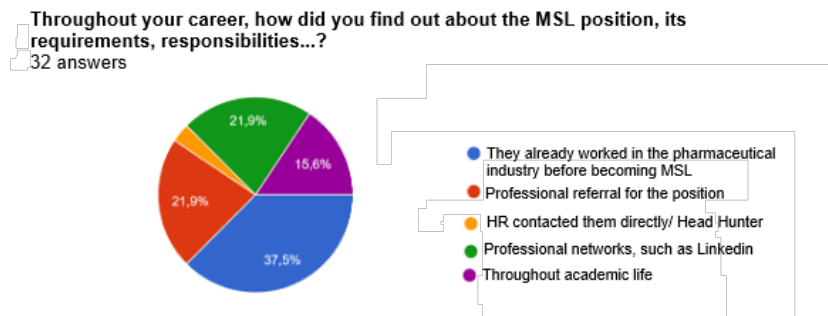


Figure 3. Question "5" field research "Performance and Challenges of the Biomedical Professional in the Pharmaceutical Industry as a Medical Science Liaison (MSL).

How long have you been in your current position?

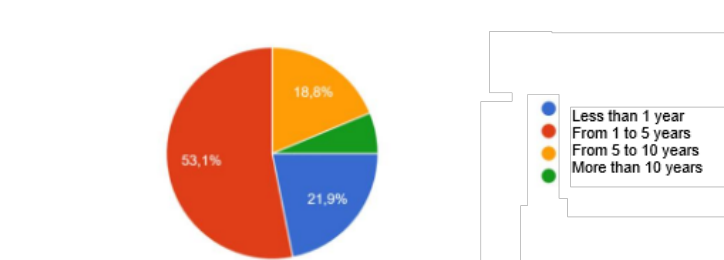


Figure 4. Question "7" field research "Performance and Challenges of the Biomedical Professional in the Pharmaceutical Industry as a Medical Science Liaison (MSL).

What was your graduation year?

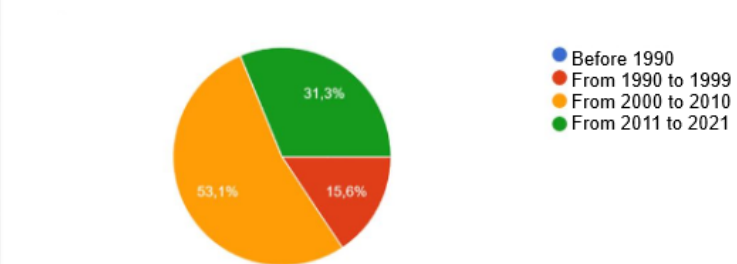


Figure 5. Question "2" field research "Performance and Challenges of the Biomedical Professional in the Pharmaceutical Industry as a Medical Science Liaison (MSL).

CONCLUSION

The study concluded that biomedical professionals are qualified for the role, given that they already perform activities such as scientific discussions, clinical research support, insight collection, pharmacovigilance reports, among other duties that involve interpreting and communicating science. Many volunteers collaborated with the research in “Question 23” saying that any biomedical professional who has prior experience not only in academia, but mainly in clinical research will have an advantage over others. There was reinforcement of the importance of completing a stricto sensu postgraduate degree such as a master's degree, doctorate or both, given the greater possibility of scientific discussions with greater depth.

Below are the questions created to ensure the greatest possible use of the research, and subsequently the responses captured:

FIELD RESEARCH QUESTIONS:

1- What is your academic background? *mandatory

- a) Medicine
- b) Biomedicine
- c) Pharmacy
- d) Biology
- e) Physiotherapy
- f) Nursing
- g) Veterinary Medicine
- h) Other:

2- What was the year you concluded your graduation?

- *mandatory
- a) Before 1990
- b) From 1990 to 1999
- c) From 2000 to 2010
- d) From 2011 to 2022

3- Did you complete a postgraduate degree? If so, which one(s)? (If you have completed more than one postgraduate degree, you can select multiple alternatives) *mandatory

- a) Doesn't apply
- b) Specialization
- c) Master
- d) Doctorate
- e) Post-Doctorate

4- Você teve uma experiência profissional ou acadêmica internacional? *mandatory

- a) Yes
- b) No

5- During your career, how did you find out about the MSL vacancy, its requirements and responsibilities?

- *mandatory
- a) Already worked in the pharmaceutical industry before becoming an MSL
- b) Professional recommendation for the vacancy
- c) HR contacted directly/Head Hunter
- d) Professional Networks, such as: LinkedIn
- e) During academic life

6- In your current role as MSL, how did you come to be hired? *mandatory

- a) Directly hired for the position
- b) Promoted within the company you work for (coming from other areas)
- c) Promoted within the company you work for (coming from the clinical research area)

7- How long have you been in your current position? *mandatory

- a) Less than 1 year
- b) From 1 to 5 years
- c) From 5 to 10 years
- d) More than 10 years

8- How did you prepare for your current position? *mandatory

- *mandatory
- a) Training offered by current company
- b) The knowledge acquired in the academic trajectory was enough
- c) Course in specialized companies in the area
- d) Mentorship from a Senior MSL known within or outside the company

9- What is your current area of activity? (If you work in more than one area, you can select multiple alternatives) *mandatory

*mandatory

- a) Oncology
- b) Hematology
- c) Cardiology
- d) Immunology
- e) Infectology
- f) Psychiatry
- g) Pneumology
- h) Pain
- i) Virology
- j) Women's health
- k) Neurology
- l) Rheumatology
- m) OTC/ Consumer Health
- n) Other:

10- You currently work as an MSL in: *mandatory

- a) NATIONAL Pharmaceutical Industry
- b) MULTINATIONAL Pharmaceutical Industry
- c) Healthcare Information Technology Industry and Clinical Research
- d) Other:

11- From 1 to 5, where: 1 I never do it and 5 I always do it, how do you consider the following assignment: "Interact with influential members of the medical community" *mandatory

	1	2	3	4	5	
Never do it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always do it

12- From 1 to 5, being: 1 I never do it and 5 I always do it, how do you consider the following assignment: "Working in person at the company" *mandatory

	1	2	3	4	5	
Never do it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always do it

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13- From 1 to 5, being: 1 I never do it and 5 I always do it, how do you consider the following assignment: "Maintain constant updating and deepening of technical and scientific knowledge" *mandatory



14- From 1 to 5, where: 1 I never do it and 5 I always do it, how do you consider the following assignment: "Having a close relationship with the Sales Force team" *mandatory



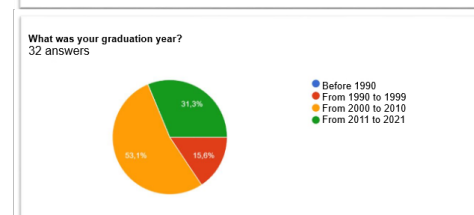
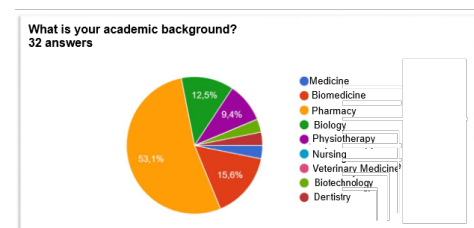
15- From 1 to 5, where: 1 I never do it and 5 I always do it, how do you consider the following assignment: "Having a close relationship with the Patient Support Program team (if applicable)" *mandatory



16- From 1 to 5, being: 1 I never do it and 5 I always do it, how do you consider the following assignment: "Plan and carry out training for company employees (especially Sales Force)" *mandatory



FIELD RESEARCH RESPONSES:



17- From 1 to 5, being: 1 I never do it and 5 I always do it, how do you consider the following assignment: "Organize internal scientific events" *mandatory



18- From 1 to 5, being: 1 I never do it and 5 I always do it, how do you consider the following assignment: "Assist the medical field with bibliographic surveys, reviews of scientific topics and scientific articles" *mandatory



19- From 1 to 5, being: 1 I never do it and 5 I always do it, how do you consider the following assignment: "Go out into the field with a member of the sales force to analyze the medical visit" *mandatory



Are there any other assignments (not mentioned above) that you would like to discuss? *mandatory

20- Do you feel that there is currently "space" for biomedical professionals to occupy an MSL position? *required.

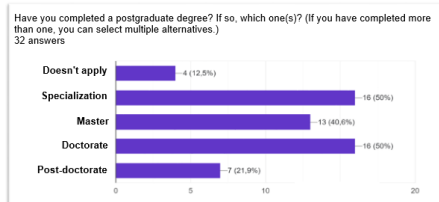
- a) Yes
- b) No
- c) Maybe
- d) Other:

21- Justify the reason for your choice in the previous question: *mandatory

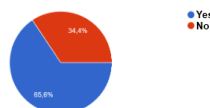
22- Would you like to identify yourself? *mandatory

- a) Yes
- a) No

23- Full name (If you answered YES to the previous question):



Have you had an international professional or academic experience? 32 answers



Throughout your career, how did you find out about the MSL position, its requirements, responsibilities...? 32 answers



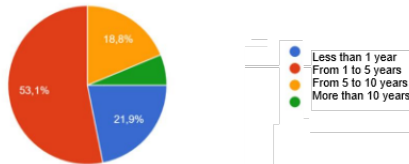
In your current role as MSL, how did you come to be hired?

32 answers



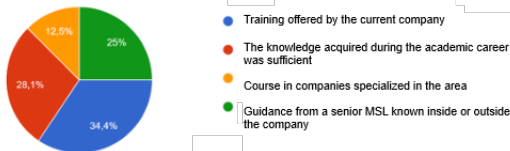
How long have you been in your current position?

32 answers



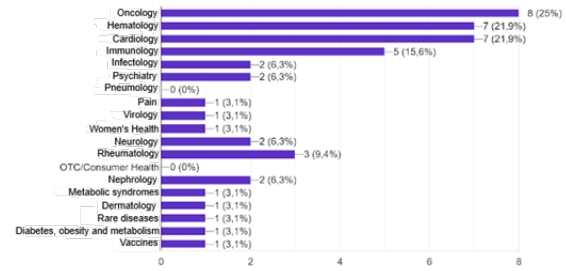
How did you prepare for your current position?

32 answers



What is your area of expertise? (If you work in more than one area, you can select multiple alternatives)

32 answers



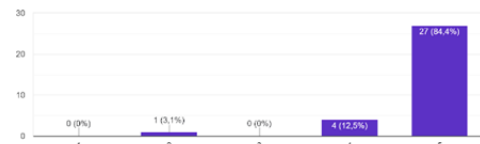
You currently work as an MSL in:

32 answers



On a scale of 1 to 5, where 1 I never do it and 5 I always do it, how do you consider the following task: "Interact with influential members of the medical community"

32 answers



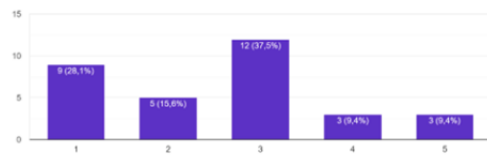
From 1 to 5, where 1 I never do it and 5 I always do it, how do you consider the following task: "Working in person at the company"

32 answers



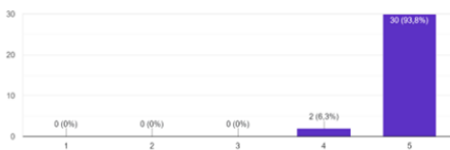
From 1 to 5, where 1 I never do it and 5 I always do it, how do you consider the following task: "Having a close relationship with the Patient Support Program team (if applicable)"

32 answers



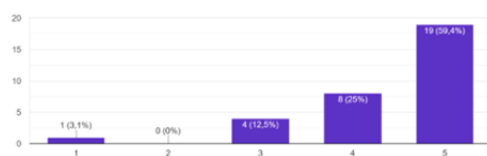
From 1 to 5, where 1 I never do it and 5 I always do it, how do you consider the following task: "Maintain constant updating and deepening of technical and scientific knowledge"

32 answers



From 1 to 5, where 1 I never do it and 5 I always do it, how do you consider the following task: "Traveling on behalf of the company to medical conferences, events, among others"

32 answers



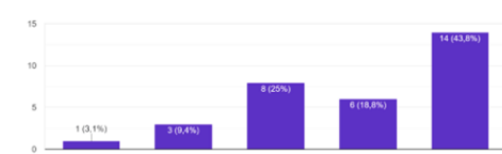
From 1 to 5, where 1 I never do it and 5 I always do it, how do you consider the following task: "Having a close relationship with the Sales Force team"

32 answers



From 1 to 5, where 1 I never do it and 5 I always do it, how do you consider the following task: "Plan and carry out training for company employees (especially Sales Force)"

32 answers



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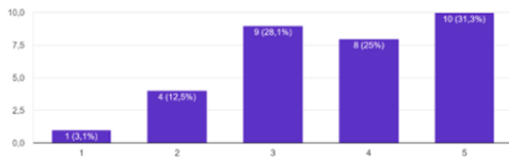
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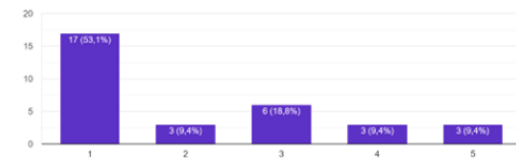
From 1 to 5, where: 1 I never do it and 5 I always do it, how do you consider the following task:
"Organize internal scientific events"
32 answers



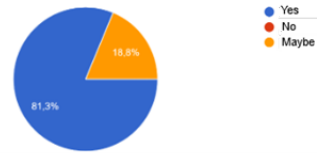
From 1 to 5, where: 1 I never do it and 5 I always do it, how do you consider the following task:
"Assist the medical field with bibliographic surveys, views on scientific topics and scientific articles"
32 answers



From 1 to 5, where: 1 I never do it and 5 I always do it, how do you consider the following task:
"Going into the field together with a member of the Sales Force to analyze medical visits"
32 answers



Do you feel that there is currently room for biomedical professionals to occupy an MSL position?
32 answers



Justify the reason for your choice in the previous question:
32 answers

1 - All healthcare professionals with knowledge of scientific research have the opportunity to fill the position of MSL;

2 - Not only biomedical professionals, but anyone with a degree or postgraduate degree in the area and who knows how to interpret and communicate science has the opportunity to enter the area;

3 - Any specialty in the healthcare area can be an MSL;

4 - I strongly believe that industries prefer pharmacists in these positions. Throughout my career, I have not had the opportunity to work in the area with healthcare professionals other than pharmacists;

5 - If you have a doctorate in the area, it will be a differential. Any healthcare professional can practice it;

6- I have colleagues who have degrees in the area.

7 - Any health professional who has previous experience not only in academia but mainly in a hospital environment (I believe this is a greater advantage than academic experience);

8 - NA

9 - I know professionals from different backgrounds who work as MSL, including biomedical professionals;

10- I have several biomedical colleagues working as MSL.

11- There are possibilities, even if the role is changing in the corporate scenario

12- There is always room for health professionals like MSL, you just need to be committed and focused.

13- There is always room for health professionals

14- What matters most is being prepared for the position, regardless of the health course you take.

15- Any health professional is qualified

16- It depends on the qualification

17- The space depends on the chosen career and the vacancy profile.

18- I believe that there are currently many open positions for MSL that can be competed for by a biomedical professional, especially if the professional has a stricto sensu postgraduate degree such as a master's degree, doctorate or both.

19- No

20- The area covers health courses

21- Basic training in health, as well as postgraduate studies and/or experience in clinical research are essential for the MSL role.

22- The MSL role requires training and knowledge in the health area, in addition to constant scientific updating.

23- As long as the professional develops the required skills

24- Any healthcare professional can occupy the position of MSL, with a doctorate or master's degree being desirable, at least, to demonstrate the ability to discuss scientific matters in greater depth. In addition to demonstrating soft skills in the selection process interviews.

25- Companies look for professionals with a history of achievements and success.

26- Several biomedical professionals at the company where I work were or are MSLs.

27 - A good portion of MSL colleagues are biomedical scientists, I believe it is a comprehensive course that provides a good foundation for MSL activities.

28- For the scientific background that the degree provides

29- A background in Biomedicine is a good foundation for the role of MSL

30 - There always is

31- Broad market for biomedicine

32- Have scientific knowledge in all scientific approaches, pathophysiology of diseases, pharmacodynamics and knowledge in pharmaceutical MKT.

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