

Satisfaction survey of occupational medicine residents during an external rotation in the Medical Services of a multinational banking company in Madrid, Spain. A cross-sectional study

Luis Reinoso-Barbero, PhD MD ¹ <https://orcid.org/0000-0001-8761-6382>, Arturo Fernández Álvarez-Rementeria, MD ², Andrea-Catherine Castillo-Sabogal, MD ³ <https://orcid.org/0009-0007-1862-0266>, Pilar Muñoz-Dueñas, PhD ⁴ <https://orcid.org/0000-0003-3848-9107>, Laura Gómez-Paredes, PhD MD ⁵ <https://orcid.org/0000-0001-8352-4392>, Cristina Pérez-Herreras MD ⁵, Maria Gutiérrez-Aguiló, MD ⁵, Juan Muñoz-Gutiérrez, MD ⁵, Félix Gómez-Gallego, PhD ⁶ <https://orcid.org/0000-0002-1968-1761>, Begoña Martínez-Jarreta, MD PhD ⁷ <https://orcid.org/0000-0001-6469-9189>.

¹UNIR Health Science Department. International University of La Rioja, Spain.

²Occupational Medicine Service. University Hospital Virgen del Rocío, Sevilla, Spain.

³Occupational Medicine Service. Occupational and Public Health Institute of Navarra, Spain.

⁴Faculty of Commerce. University of Vigo, Galicia, Spain.

⁵Occupational Medicine Service. Grupo Banco Santander, Madrid, Spain.

⁶Health Science Department. Rey Juan Carlos University, Madrid, Spain.

⁷Faculty of Medicine. University of Zaragoza, Aragón, Spain.

Corresponding author: Dr. Luis Reinoso-Barbero C/ Juan Ignacio Luca de Tena 13, 28027 Madrid. Phone number: +34 651701815 luisreinosobarbero@gmail.com

Funding Sources for ALL authors: NONE DECLARED.

Conflict of Interest for ALL authors: NONE DECLARED.

No AI was used at ANY STAGE of research development, design, data collection, or manuscript preparation. ALL AUTHORS adhere to your recently updated AI policy: <https://edmgr.ovid.com/joem/accounts/ifauth.pdf>

AI was not used at all.

Copyrighted materials: No copyrighted material, surveys, instruments, or tools were used in the research described in this article.

Acknowledgments:

1. ALL Sources of support: This research received financial support from the 2023/2024 Grant for Translating Scientific Articles and Open Access Journal Publication Fees provided by the International University of La Rioja (UNIR).
2. Specific Authors Contributions of each Author:
 - a. Development: Luis Reinoso-Barbero, PhD MD, Arturo Fernández Álvarez-Rementeria, MD, Andrea-Catherine Castillo-Sabogal, MD.
 - b. Data analysis: Pilar Muñoz-Dueñas, PhD, Félix Gómez-Gallego, PhD and Begoña Martínez-Jarreta, Ph DMD.
 - c. Review: Laura Gómez-Paredes, PhD MD, Juan Muñoz-Gutiérrez, MD, Cristina Perez-Herreras MD and Maria Gutierrez-Aguiló MD.

The translation was reviewed by Sonia Cal, a professional translator. The authors express their gratitude to the nursing and administrative staff of the Group's Medical Service for their valuable and active participation in this study.

3. Data availability: Not available.

4. Equator Networking Reporting Guidelines: The authors have used and adhered to STROBE guidelines for observational studies. Document attached in supplementary digital content (SDC).

Ethics statement: The committee approval number is PI053/2025 from the International University of La Rioja (UNIR). Document attached.

ACCEPTED

Clinical significance:

Residents reported very high satisfaction during their one-month rotation, with an average score of 9 out of 10.

Their responses were consistent with objective performance indicators of the Medical Services.

Ongoing quality improvement measures are recommended.

Investing in training future specialists is a valuable strategic decision.

ACCEPTED

Abstract

Objective: The aim of this study was to describe satisfaction survey results from occupational medicine residents.

Methods: Cross-sectional study with 10 closed-ended questions scored 1 to 10 and one open question. The survey was given to 52 residents during a one-month external rotation in the Medical Services of a multinational company in Madrid, Spain.

Results: 31 residents were physicians (59.6%) and 39 were women (75%).

13 residents (25%) did not complete the survey. Closed-ended questions scored ≥ 9 . The lowest scores were rotation time, mean 9.0, and achievement of objectives, mean 9.3. 33 residents answered the open question. Of these, 81.8% expressed gratitude.

Suggestions included extending rotation (27.3%) and rotating with senior occupational risk prevention technicians, SORPT (21.2%).

Conclusions: Satisfaction amongst residents was high. It is proposed to increase rotation time and ensure all residents rotate with SORPT.

Keywords: Occupational medicine, residents, postgraduate education.

Learning outcomes:

- Describe how external rotations can improve postgraduate education in Occupational Medicine.
- Discuss how satisfaction surveys help postgraduate education in Occupational Medicine.
- Suggest improvements to attract more doctors to Occupational Medicine.

ACCEPTED

Introduction

Occupational Medicine has been a recognised specialty in Spain for nearly a century (1, 2).

Its development shows significant advances in both training and professional recognition. The specialty was promoted by Dr Antonio Oller Martínez in 1934. It gained official status with the Medical Specialties Act in 1955.

Since then, training evolved from theory in professional schools to the current four-year Medical Intern Resident (MIR) programme. This programme combines theoretical education with practical experience in healthcare centres and occupational health services (1).

Once medical graduates pass the national competitive examination regulating access to medical specialties in Spain (3), they may pursue specialist training in Occupational Medicine (4).

The exam score determines the order of selection for both specialty and training location. Candidates are then assigned to a public hospital within the Spanish National Health System.

Those choosing to train as occupational physicians must complete a four-year residency programme in Occupational Medicine. During this period, they are known as “Medical Intern Resident” (*Médicos Internos Residentes* in Spanish) (MIR).

A similar training pathway exists for occupational health nurses lasting two years. Resident nurses are called “Nurse Intern Resident” (*Enfermeras Internas Residentes* in Spanish) (EIR) (5).

The current Official Programme for the Specialty of Occupational Medicine was established by Order SCO/1526/2005. It sets a structured four-year residency training scheme. The programme includes the *Curso Superior de Medicina del Trabajo* (Advanced Course in Occupational Medicine), which requires at least 800 hours of foundational instruction.

Residents must rotate through various medical specialties in hospitals and healthcare centres. They also complete placements in occupational risk prevention services. These components form part of the residency system and ensure a comprehensive and practical learning experience.

The programme identifies five main domains in Occupational Medicine. These are preventive, clinical, expert assessment, managerial, and educational or research activities.

This multidimensional approach ensures trainees gain the skills needed to face diverse occupational health challenges.

Despite its key role in preventing occupational risks and promoting workplace health, the specialty faces challenges in visibility and appeal to new medical graduates. Nevertheless, recent studies show rising satisfaction among trained specialists, who value the specialty's employability prospects and the quality of professional life it provides.

Extensive literature highlights the shortage of Occupational Medicine Residents (MIR) in training (1, 6-12). Several studies also report high satisfaction levels within the specialty (13).

This external rotation is extensive. It covers preventive tasks, including collaboration with senior occupational risk prevention technicians SORPT, health surveillance, care planning, and health promotion campaigns. It also includes healthcare, expert-assessment, management and educational and research activities. These take place over a short period, with two weeks at each of the two Medical Services Centres in Madrid. Overall, this constitutes a one-month rotation. These take place over a short period, with two weeks at each of the two Medical Services Centres in Madrid.

This article presents findings from a study on Occupational Medicine specialists training in Spain. It examines residents' satisfaction with this single one-month rotation.

Objective: To describe the satisfaction surveys completed by medical residents after their external rotation in the Occupational Health Service of a Spanish multinational banking company. The study also summarises areas for improvement and proposes priorities.

The goal is to support continuous improvement of residency training.

Material and methods

Study type: Cross-sectional, descriptive, observational study. The study analysed satisfaction surveys completed by Occupational Medicine and Occupational Nursing residents.

These surveys were filled after a one-month external rotation in the Medical Services of a Spanish multinational banking company.

Population and sample: Residents in their final or penultimate year of MIR (Medical Intern Resident) training or final year of EIR (Nursing Intern Resident) training specialised in Occupational Medicine or Occupational Nursing, respectively.

Residents came from teaching units of public hospitals within the Spanish National Health System. These hospitals covered the entire national territory.

They all completed a one-month rotation at the Medical Services of the Spanish multinational banking company in Madrid, Spain, between February 2022 and November 2024.

Inclusion criteria: Residents in their third or fourth year of MIR in Occupational Medicine, or second year of EIR in Occupational Nursing. They must be authorised by their residency tutor at their teaching unit in their public hospital within the Spanish National Health System. They must have completed an external rotation at the Medical Services of this Spanish multinational banking company. The rotation must have taken place between 1 February 2022 and 30 November 2024.

Exclusion criteria: Residents belonging to specialties other than Occupational Medicine or Nursing. Residents who did not complete a rotation at the Medical Services of the banking multinational company. Residents who are not MIR or EIR. Residents who completed the rotation outside the scheduled dates.

Physical location: The Medical Services of the Spanish multinational banking company consist of two separate centres in Madrid. Both follow the same protocols and standard procedures. Each centre has two Occupational Medicine specialists and three Occupational Nursing specialists. Administrative personnel and specialists in other medical disciplines are also included in the Medical Services.

The service covers preventive, management, and medical assessment tasks for over 33,000 employees nationwide. It provides healthcare services for more than 19,000 employees in the Madrid region, Spain. Residents spend the first half of the rotation month in one centre and the second half in the other.

Timeline: In September 2021, the acceptance of residents for external rotations in the Medical Services of the Spanish multinational banking company began to be publicised. Information was shared through the social media channels of the Spanish Association of Occupational Medicine

Specialists (www.aeemt.com). Candidates were interviewed and assigned to different months starting from February 2022. Initially, only one EIR was accepted per month. Later, one EIR and one MIR were accepted simultaneously. Eventually, one EIR and two MIR residents were accepted per month.

Satisfaction surveys were completed by each resident at the end of the rotation month (Figure 1).

Likewise, on the final day of the rotation, each resident received an evaluation of their external rotation. This report included three sections.

i). *Achievement of proposed educational objectives:* Understanding occupational health management and surveillance. Conducting accident analysis and knowledge of prevalent diseases. Providing emergency medical care. Working alongside occupational risk prevention technicians in safety, hygiene, and ergonomics/psychosociology. Carrying out epidemiological studies and health promotion activities. Knowing the emergency plan and participating in evacuation drills. Caring for especially sensitive workers and managing workplace adaptations and job reassignments.

ii). *Knowledge and skills:* Acquiring relevant knowledge. Assessing problems and making decisions. Applying practical skills. Managing resources effectively. Ensuring patient safety.

iii). *Attitude:* Demonstrating motivation, punctuality, and regular attendance. Communicating well with patients. Working effectively in teams. Upholding ethical

and professional values.

In December 2024, the surveys were compiled and entered into an Excel spreadsheet.

Anonymity was maintained by assigning a unique code to each survey.

Figure 1 callout.

Variables: Individual written satisfaction survey (Figure 1) included 10 closed-ended questions rated from 1 to 10. A score of 1 indicated lowest satisfaction, while 10 indicated highest satisfaction.

One open-ended question invited residents to provide honest feedback on specific areas for improvement, aiming to enhance the experience for future residents.

The closed-ended questions covered fulfilment of rotation objectives, usefulness and duration, organisation of service activities, supervision and accessibility, teaching methodology, quality of teaching received. Facilities, materials and resources, perceived benefit of the rotation, and overall evaluation of the external rotation were also assessed.

Procedure: The survey was delivered individually to each resident on the last day of their rotation, between February 2022 and November 2024. Data were collected using Excel spreadsheets. The results were then analysed.

The authors used and adhered to the STROBE guidelines for observational studies, as detailed in the Supplemental Digital Content (<http://links.lww.com/JOM/C171>).(14)

As this was a cross-sectional descriptive observational study, no sample size calculation was required. No were measures were adopted to address potential sources of bias.

Results are expressed in absolute numbers, percentages, means, and standard deviations.

Ethics approval and consent to participate: All medical ethics principles were strictly followed in this study.

Approval was granted by the Research Ethics Committee of La Rioja International University (CEI UNIR), with the code PI053/2025 as detailed in Annex I.

Consent to participate was deemed unnecessary by the CEI UNIR. This was due to the fact that no sensitive personal data were collected.

Results

Figure 2 shows the flowchart with the 52 residents who completed the external rotation. Of these, 31 residents were physicians, MIR 59.61% and 21 were nurses, EIR, 40.39%. 39 residents were female, 75% and 13 were male, 25%.

Figure 2 callout.

Among the 39 female residents, 20 were EIR nurses and 19 were MIR physicians.

Within the 13 males, 12 were MIR physicians and 1 was an EIR nurse.

Regarding the 31 physicians, 12 MIR were in their third year of residency and 19 were in their fourth year. All 21 EIR nurses were in their second year of residency.

From the total of 52 residents, 39, representing the 75% completed the satisfaction survey, while 13, representing the 25%, did not respond. Among the 13 non-respondent residents, 8 were MIR physicians and 5 were EIR nurses, representing a 25% loss relative to the

total.

Out of the 39 completed surveys, 23 were filled out by medical residents, 59% and 16 by nursing residents, 41%.

Table 1 callout.

Table 1 summarises the results of the 10 closed-ended questions. All items recorded an average score above 9 out of 10. The two variables with the lowest scores were rotation duration, 9.0 out of 10, SD 1.39 and achievement of objectives 9.3 out of 10, SD 0.80. The two variables with the highest scores were facilities, resources and available materials, 9.79 out of 10, SD 0.52 and quality of teaching received 9.74 out of 10, SD 0.56. The overall average rating was 9.63 out of 10, SD 0.54. Only one medical resident assigned a score of 8 points. No scores were below 8.

Among the 39 residents who completed the satisfaction survey, 6 residents, 15.38%, left the open-ended comments or suggestions section blank. The remaining 33 residents, 84.62%, answered the open-ended question. Within these, 27 residents, 81.81%, expressed their gratitude. The most frequent suggestions for improvement were to extend the rotation, 27.27% and to rotate with the Senior Occupational Risk Prevention Technicians (SORPT), 21.21%.

Table 2 summarises the responses provided in the open-ended suggestions and comments section.

Table 2 callout.

Discussion

Key findings: The surveys show a highly favourable perception among residents regarding their rotation at these Medical Services. All closed-ended questions scored above 9 out of 10, with 10 as the highest rating. The highest-rated variables were facilities, teaching quality and rotation benefit. The lowest-rated variables were rotation time, considered insufficient by residents and achievement of objectives. This was due to 33% of residents being unable to rotate for two or three days as planned with the SORPT, which was one of the objectives of the rotation.

These findings align with the open-ended responses, where over 80% expressed their gratitude. The most frequent suggestions were to extend the rotation, representing 27.27% and rotate with SORPT with 21.21%.

Limitations: This cross-sectional study does not allow conclusions about causality. The sample size was relatively small, and there was no comparison group. Additionally, 25% of residents did not complete the survey. Among the 39 respondents, 6 did not provide comments in the open-ended section. This raises the possibility of non-response and selection bias due to voluntary survey participation. Furthermore, the data were obtained from a single multinational company in the financial sector, with its own organisational structure and resources. Results may not represent other occupational health services in different industries or geographical areas. Limited collaboration with the SORPT team also restricts the rotation scope and undermines a key aspect of occupational medicine: the practical application of risk prevention within a multidisciplinary team.

Finally, responses reflect perceptions during 2022–2024. Satisfaction levels may vary over time depending on available resources, supervisors, and institutional priorities. These factors limit the generalisability of the results beyond the studied setting.

Interpretation: The feminisation of healthcare professions, both generally and in our setting, is well documented and confirmed again by this study (15-17).

The consistency of this study is strengthened by data pointing in the same direction. The lowest-rated variables in the closed-ended questions match the most frequent suggestions for improvement in the open-ended responses. These findings also align with objective observations from the Medical Services.

One in three residents did not join the SORPT. This was due to factors beyond the Medical Service's control. The SORPT's activities vary across the year. Occasionally, their schedules did not align with the resident's rotation periods. For example, workplace assessments, office visits or evacuation drills could fall aside the rotation dates.

Participation in research activities is a key part of the rotation for medical residents. This involvement strengthens academic development. It also fosters a growing interest in scientific research. Residents develop a proactive attitude towards knowledge production. This supports continuous improvement in clinical practice.

Furthermore, rotations in research units allow residents to join active projects. This supports the practical use of scientific methods. This enables residents to strengthen skills in critical analysis and evidence appraisal. This approach is essential for training healthcare professionals committed to quality and innovation.

The high satisfaction levels may be explained by residents highlighting the accessibility and commitment of occupational medicine specialists. These specialists provided close supervision and individualised feedback throughout the rotation. The low tutor-to-resident ratio likely contributed to the perceived teaching quality. The rotation exposed residents to the full spectrum of occupational medicine activities, including preventive, clinical,

managerial, and research tasks. This provided a comprehensive understanding of the specialty beyond the hospital setting.

To replicate these outcomes in other settings, several strategies can be considered. Structured agreements between teaching hospitals and occupational health services in large companies can ensure access to high-quality external rotations. Small resident groups with dedicated supervisors may enhance individualised learning and satisfaction. Aligning rotation schedules with the activities of occupational risk prevention teams can help residents meet all learning objectives.

Distinctive features compared to other rotations include the wide geographical reach of the banking institution, with significant international dispersion that allows consultations with employees in different languages, primarily English in a Spanish-speaking setting. It also allows identifying and managing health issues related to frequent international travel and circadian rhythm disruptions caused by time zone changes.

Contributing factors to satisfaction during the rotation, independent of the facilities, include access to medication. Drugs can be administered orally or intravenously and dispensed on-site for same-day treatment, both in medical consultations and emergency care.

Permanent educational quality is ensured through individualised consultations with workers. Residents rotate in person through different clinics alongside occupational physicians, acquiring each physician's working methodology. This is supported by a high physician-to-resident ratio, with up to three physicians per resident.

An additional relevant factor is the opportunity to conduct research projects under the supervision of the medical coordinator, or nursing staff when applicable. This provides

training in data collection methods and research development. This component is especially important, as it is absent in many other external rotations.

Generalisability: Despite showing internal consistency, external validity cannot be guaranteed due to the limitations described above. Expanding the sample size and adding follow-up are recommended for future research.

Conclusions: Resident satisfaction with this external rotation is high. Responses to closed-ended and open-ended questions are consistent with each other and with objective observations from the Medical Services. To improve residents' perceptions and foster continuous quality enhancement, we recommended maintaining the highest-rated elements and extending the rotation period to two months. Additionally, rotation dates should be scheduled in coordination with the SORPT team to ensure that 100% of residents complete this part of the training. We believe that attracting the long-awaited vocations to Occupational Medicine necessarily involves a sustained pursuit of excellence in residency training.

Bibliography

1. Juan-Francisco Álvarez-Zarallo. The training of Occupational Medicine Specialists: past, present and future. *Rev Asoc Esp Espec Med Trab* 2024; 33(3): 283-285.
2. Biography of Dr. Antonio Oller Martínez. Available at: <https://biomedes.es/biografia/oller-martinez-antonio/>
3. Ministry of Health, Government of Spain. Call for Selective Tests for Specialised Health Training (MIR). 2024. Available at: <https://www.sanidad.gob.es/profesionales/formacion/docs>
4. BOE-A-2005-8833. Order SCO/1526/2005, of 5 May 2005, approving and publishing the training programme for the specialty of Occupational Medicine.
5. Ministry of Health, Government of Spain. Nursing Specialties. Occupational Nursing (EIR). 2023. Available at: <https://www.sanidad.gob.es/profesionales/formacionEspecializada/enfermeria.htm>
6. Green-McKenzie J, Khan A, Redlich CA, Margarin AR, McKinney ZJ. The Future of Occupational and Environmental Medicine. *J Occup Environ Med*. 2022 Dec 1;64(12):e857-e863. doi: 10.1097/JOM.0000000000002676. Epub 2022 Aug 10. PMID: 35960857.
7. Sharip A, Papanek P, Conlon C, Gean CJ, Khan A, Harrison R, Berenji M. WOEMA Position Paper and Call-to-Action: California needs more physicians specializing in Occupational and Environmental Medicine (OEM). *J Occup Environ Med*. 2025 Apr 18. doi: 10.1097/JOM.0000000000003426. Epub ahead of print. PMID: 40245373.
8. Lutchman K, Wan M, Lan FY, Kales SN, Frates EP. Integrating the Lifestyle Medicine Residency Curriculum into an Occupational Medicine Training Program. *J Occup*

Environ Med. 2024 Apr 1;66(4):e143-e144. doi: 10.1097/JOM.0000000000003056. Epub 2024 Jan 26. PMID: 38275180.

9. Martínez-Jarreta, B.; Majery, N.; Bulat, P.; Jungewelter, S.; Păuncu, E.-A.; Weigel, D.; Bubas, M.; Škerjanc, A.; Vanadzins, I.; Eglite, M.; et al. Improving Education and Training to Reduce the Burden of Occupational Cancer. The Riga-European Association of Schools of Occupational Medicine (EASOM) Statement on Work-Related Cancer. *Int. J. Environ. Res. Public Health* **2020**, *17*, 2279. <https://doi.org/10.3390/ijerph17072279>
10. Lamouroux C, Julien C, Rolland F, Gouy E, Truong LN, Frajerman A, Vinchon F, Hadouiri N. What do medical students, residents and graduated physicians think about occupational physicians? A cross-national survey on stereotypes. *Occup Environ Med.* 2025 Feb 12;81(12):628-631. doi: 10.1136/oemed-2024-109461. PMID: 39663119.
11. D Lalloo, E Demou, N Pahl, E B Macdonald, Research and teaching activity in UK occupational physicians, *Occupational Medicine*, Volume 70, Issue 1, January 2020, Pages 64–67, <https://doi.org/10.1093/occmed/kqz132>
12. A D Furlan, C Severin, S Harbin, E Irvin, Nancy Carnide, Behdin Nowrouzi-Kia, Sara Macdonald, Aaron Thompson, Qing Liao, Peter Smith, Anil Adishes, ECHO OEM virtual community of learning for primary care, *Occupational Medicine*, Volume 74, Issue 7, October 2024, Pages 493–500, <https://doi.org/10.1093/occmed/kqae067>
13. Shavoun AH, Mirzazadeh A, Kashani H, Raeskarami SR, Gandomkar R. Evaluation of educational environment using the short-version Postgraduate Hospital Educational Environment Measure (PHEEM): A multicentre study. *J Educ Health Promot.* 2025 Feb 28;14:68. doi: 10.4103/jehp.jehp_1650_23. PMID: 40144189; PMCID: PMC11940028.

14. Von Elm Erik, Altman Douglas G., Egger Matthias, Pocock Stuart J., Gøtzsche Peter C., Vandembroucke Jan P. STROBE (Strengthening the Reporting of Observational Studies in Epidemiology): Spain Rev. Public Health [Internet]. 2008 Jun [cited 2024 Jun 12]; 82(3): 251-259. Available at: http://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1135-57272008000300002&lng=es.
15. van der Velden LF, Hingstman L, Heiligers PJ, Hansen J. Toenemend percentage vrouwen in de geneeskunde: verleden, heden en toekomst [Increasing number of women in medicine: past, present and future]. Ned Tijdschr Geneeskd. 2008 Oct 4;152(40):2165-71. Dutch. PMID: 18953778.
16. Buddeberg-Fischer B, Stamm M, Buddeberg C, Bauer G, Häemmig O, Knecht M, Klaghofer R. The impact of gender and parenthood on physicians' careers--professional and personal situation seven years after graduation. BMC Health Serv Res. 2010 Feb 18;10:40. doi: 10.1186/1472-6963-10-40. PMID: 20167075; PMCID: PMC2851709.
17. Urbano Gonzalo O, Marco Gómez B, Pérez Álvarez C, Gállego Royo A, Sebastián Sánchez I, Astier Peña MP. Why do physicians go to work when they are sick? Presenteeism at different career stages. J Healthc Qual Res. 2024 Mar-Apr;39(2):100-108. doi: 10.1016/j.jhqr.2024.01.004.

Figure legend section

Figure 1. Individual satisfaction survey for residents.

Figure 2. Flowchart of participants and non-participants in the satisfaction survey of the external rotation program for medical residents (MIR) and nursing residents (EIR) at the Medical Services of a Spanish multinational banking company. Cross-sectional study in Madrid, Spain, 2022 to 2024.

ACCEPTED

Figure 1

We would appreciate your feedback on this rotation to help us implement improvements. Thank you for your time.

Year of Residence:

Duration of the rotation.....

Assessment criteria	Please rate the following areas (1 indicating lowest satisfaction, 10 indicating highest satisfaction)
Achievement of educational objectives	
Usefulness of the rotation	
Duration of the rotation	
Organisation of service activities	
Supervision and availability of staff	
Teaching methodology used	
Quality of teaching received	
Facilities, resources and materials available	
Benefit gained from the rotation	
Overall evaluation of the rotation	

Open-ended question:

In your opinion, what could be improved in this rotation to enhance future residents' experience? Please include any further comments:

.....
.....
.....

Figure 2

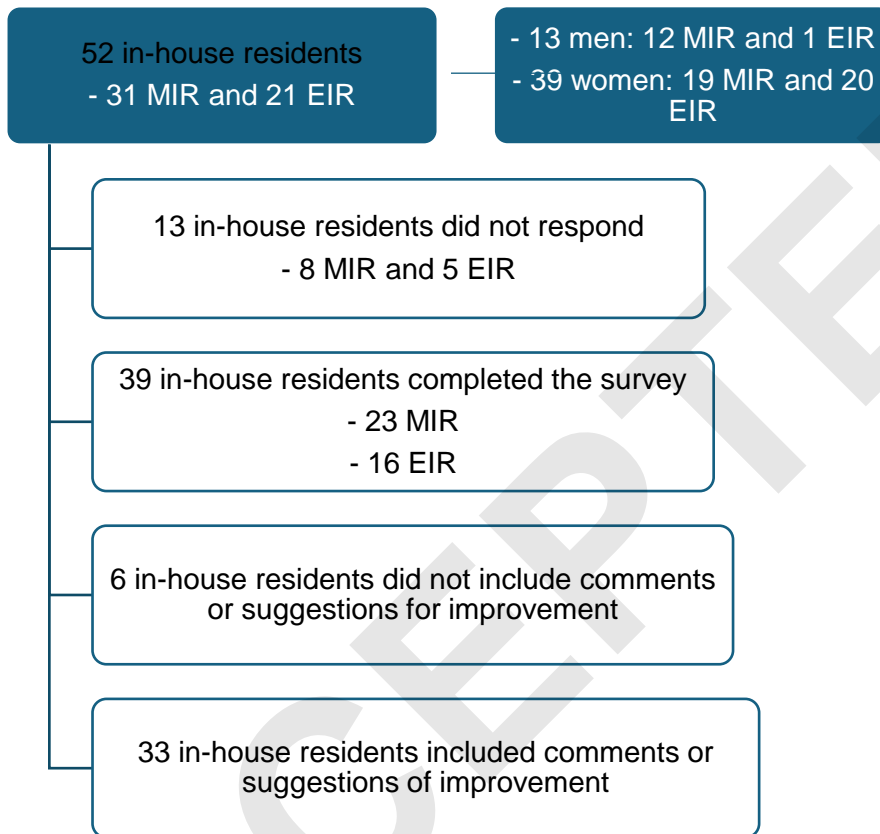


Table 1. Summary of the 39 residents' individual satisfaction surveys. Expressed as the mean of the 39 responses to each question and standard deviation (SD).

10 close-ended questions	Mean Response (1 indicating lowest satisfaction, 10 indicating highest satisfaction).	Standard Deviation (SD)
Achievement of objectives	9.32	0.80
Usefulness of the rotation	9.60	0.59
Duration of the rotation	9.00	1.39
Organisation of service activities	9.45	0.97
Supervision and accessibility of activities by healthcare staff	9.63	0.59
Teaching methodology used	9.42	0.72
Assessment of teaching quality received	9.74	0.56
Facilities, resources and materials available	9.79	0.52
Application of the rotation	9.66	0.53
Overall assessment of the rotation	9.63	0.54

Table 2. Responses to the open-ended question. Positive comments and suggestions for improvement from 33 residents. Expressed as absolute counts and percentages, n (%).

Positive comments	Number of times repeated n (%)	Suggestions for improvement	Number of times repeated n (%)
Thank you	27 (81.81)	Extend the rotation	9 (27.27)
Quality of teaching by tutors, medical and nursing team	14 (42.42)	Rotate with prevention technicians	7 (21.21)
Useful and well organised rotation	12 (36.36)	Increase participation in health promotion programmes, for example smoking cessation, flu vaccination, Be Healthy Week	4 (12.12)
Health promotion activities, for example flu vaccination, smoking cessation, Be Healthy Week	10 (30.30)	Improve access to the shuttle bus	3 (9.09)
Team integration	9 (27.27)	Facilitate residents' access to restaurants	2 (6.06)
Research involvement	6 (18.18)	Improve organisation, develop a more structured plan	2 (6.06)
Medical emergency care	6 (18.18)	Involve residents in the management of occupational accidents	2 (6.06)
Rotation with prevention technician	6 (18.18)	Allow resident access to the pharmacy	1 (3.03)
Recommendation to junior residents	6 (18.18)	Improve workstation for rotating resident with fixed computer, properly adjusted screen and keyboard height	1 (3.03)
Professionalism and dedication	5 (15.15)	Enhance nursing team cohesion	1 (3.03)
Clinical sessions	3 (9.09)	Provide more training on SPRL management	1 (3.03)
Health surveillance	3 (9.09)	Hold short sessions on complex, recent or anecdotal cases with their management recommendations as occupational physicians	1 (3.03)
Prevention management	2 (6.06)	Ensure residents are not left alone during consultations to maximise tutor learning	1 (3.03)
Facilities	1 (3.03)	Avoid rotation residents in both centres simultaneously	1 (3.03)
Innovative ideas, for example breastfeeding room	1 (3.03)	Avoid residents carrying computer and being responsible for equipment	1 (3.03)
Awareness of prevalent diseases	1 (3.03)	Address issues caused by corporate security hindering work	1 (3.03)

STROBE Statement

	Item No	Recommendation	Page No
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	1
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	1
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	2
Objectives	3	State specific objectives, including any prespecified hypotheses	2
Methods			
Study design	4	Present key elements of study design early in the paper	3
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	3-4
Participants	6	(a) <i>Cohort study</i> —Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up <i>Case-control study</i> —Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls <i>Cross-sectional study</i> —Give the eligibility criteria, and the sources and methods of selection of participants	4
		(b) <i>Cohort study</i> —For matched studies, give matching criteria and number of exposed and unexposed <i>Case-control study</i> —For matched studies, give matching criteria and the number of controls per case	
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	4-5
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	4-5
Bias	9	Describe any efforts to address potential sources of bias	6
Study size	10	Explain how the study size was arrived at	3
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	5
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding	5
		(b) Describe any methods used to examine subgroups and interactions	5
		(c) Explain how missing data were addressed	5
		(d) <i>Cohort study</i> —If applicable, explain how loss to follow-up was addressed <i>Case-control study</i> —If applicable, explain how matching of cases and controls was addressed <i>Cross-sectional study</i> —If applicable, describe analytical methods taking account of sampling strategy	5

(e) Describe any sensitivity analyses

5

Continued on next page

ACCEPTED

Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	6-7
		(b) Give reasons for non-participation at each stage	
		(c) Consider use of a flow diagram	6 (fig. 1)
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	7
		(b) Indicate number of participants with missing data for each variable of interest	
		(c) <i>Cohort study</i> —Summarise follow-up time (eg, average and total amount)	
Outcome data	15*	<i>Cohort study</i> —Report numbers of outcome events or summary measures over time	7-8
		<i>Case-control study</i> —Report numbers in each exposure category, or summary measures of exposure	
		<i>Cross-sectional study</i> —Report numbers of outcome events or summary measures	
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	8
		(b) Report category boundaries when continuous variables were categorized	8
		(c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	8
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	8
Discussion			
Key results	18	Summarise key results with reference to study objectives	9
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	10
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	10
Generalisability	21	Discuss the generalisability (external validity) of the study results	11
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	Title page

*Give information separately for cases and controls in case-control studies and, if applicable, for exposed and unexposed groups in cohort and cross-sectional studies.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at www.strobe-statement.org.

Satisfaction survey results of a one-month external rotation in the Medical Services of a Spanish multinational banking company

52 occupational medical and nursing residents voluntarily chose to train for one month in the Medical Services of a Spanish multinational banking company from 2022 to 2024.



ONE MONTH
LATER

All were invited to participate in a satisfaction survey.



Ten closed-ended
and one opened-
question.



- 75 % participated
- 59.61 % physicians
- 40.39 % nurses
- 75 % women



Mean score was always above $\geq 9/10$.



81.81% expressed gratitude.



Key Aspects: facilities, resources and available material (9.79 out of 10) (SD 0.52) and quality of teaching received (9.74 out of 10) (SD 0.56).



Areas for Improvement: More rotation time and fellow time with occupational risk prevention technicians.

Satisfaction survey of occupational medicine residents during an external rotation in the Medical Services of a multinational banking company in Madrid, Spain. A cross-sectional study.

Luis Reinoso-Barbero, PhD MD, Arturo Fernández Álvarez-Rementeria, MD, Andrea-Catherine Castillo-Sabogal, MD, Pilar Muñoz-Dueñas, PhD, Laura Gómez-Paredes, PhD MD, Cristina Pérez-Herreras MD, María Gutiérrez-Aguiló, MD, Juan Muñoz-Gutiérrez, MD, Félix Gómez-Gallego, PhD Begoña Martínez-Jarreta, MD PhD.



@JOEMJournal



/Showcase/JournalJOEM



@journalofocmed

Copyright © 2023 ACOEM. All rights reserved.

JOEM

Journal of
Occupational and
Environmental Medicine