



Brief report

[Translated article] Professional profile and expectations of members associated to Pharmaceutical Care in Infectious Diseases group of the Spanish Society of Hospital Pharmacy

Iván Oterino-Moreira^{a,g}, Álvaro-Eloy Monje-López^{b,g}, Beatriz Mejuto^{c,g}, Alba Pau-Parra^{d,g}, Leonor Periañez-Parraga^{e,g,*} and Sonia Luque^{f,g,h,i}

^a Servicio de Farmacia, Hospital Universitario de Móstoles, Móstoles, Spain

^b Servicio de Farmacia, Hospital Santa Creu i Sant Pau, Barcelona, Spain

^c Servicio de Farmacia, Hospital Clínico Universitario de Santiago de Compostela, Santiago de Compostela, Spain

^d Servicio de Farmacia, Hospital Universitario Vall d'Hebron, Barcelona, Spain

^e Servicio de Farmacia, Hospital Universitario Son Espases, Palma de Mallorca, Spain

^f Servicio de Farmacia, Hospital del Mar, Barcelona, Spain

^g Grupo de Atención Farmacéutica en Enfermedades Infecciosas, Sociedad Española de Farmacia Hospitalaria, Madrid, Spain

^h Grupo de Investigación en Patología Infecciosa y Antimicrobianos (IPAR), Institut Hospital del Mar d'Investigacions Mèdiques (IMIM), Barcelona, Spain

ⁱ Centro de Investigación Biomédica en Red de Enfermedades Infecciosas (CIBERINFEC), Instituto de Salud Carlos III, Madrid, Spain

ARTICLE INFO

Article history:

Received 10 February 2025

Accepted 28 September 2025

Available online xxxx

Keywords:

Hospital pharmacy service

Anti-infectives agents

Antimicrobial stewardship programs

Surveys and questionnaires

Pharmacy education

A B S T R A C T

Background: The Pharmaceutical Care in Infectious Diseases Group (AFInf) is composed of a coordinating group of 11 pharmacists, 1 fellow, 1 resident pharmacist intern, 4 senior consultants and 221 associate members (July 2025). The aim is to understand and describe the profile of the members as a basis for defining future strategic lines to improve their participation.

Methods: An online survey was distributed to all AFInf group members, including questions about their professional activity, expectations and potential contributions to the group.

Results: The 41.7% of associated professionals participated in the survey. The median length of experience in the area of infectious diseases was 5 years (RIC 2–10). Antimicrobial stewardship programmes represented the main area of expertise (73.9%; 95% CI: 63.2–84.5), followed by pharmacokinetic monitoring (16.9%; 95% CI: 7.8–26.0). The priorities of the adherents were to receive training and education (52.3%; 95% CI: 40.2–64.5%) as well as the need to share doubts and experiences (27.7%; 95% CI: 16.8–38.6). Among the respondents, 50.0% (95% CI: 39.0–61.0) consider that they could contribute ideas and experiences, while 31.3% (95% CI: 21.1–41.4) research/collaborate on projects and 18.7% (95% CI: 10.2–27.3) participate in teaching and other group activities.

Conclusion: This study has allowed us to better understand the professional profile of pharmacists who are members of the AFInf group and to analyze their concerns and possible contributions.

© 2025 Sociedad Española de Farmacia Hospitalaria (S.E.F.H). Published by Elsevier España, S.L.U. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Perfil profesional y expectativas de los miembros adheridos al grupo de trabajo de Atención Farmacéutica en Enfermedades Infecciosas de la Sociedad Española de Farmacia Hospitalaria

R E S U M E N

Introducción: el grupo de trabajo de Atención Farmacéutica en Enfermedades Infecciosas (AFInf) está compuesto por un órgano directivo de 11 farmacéuticos, un becario, un farmacéutico interno residente, 4 consultores senior y 215 miembros adheridos (julio 2025). El objetivo del estudio es conocer y describir el perfil de los adheridos como base para definir líneas estratégicas futuras que mejoren su participación.

Métodos: se distribuyó una encuesta *online* a todos los miembros adheridos al grupo AFInf que incluyó preguntas sobre la actividad profesional, expectativas y posibles contribuciones al grupo.

Resultados: el 41,7% de los profesionales miembros participó en la encuesta. La mediana de tiempo de

Palabras clave:

Servicio de farmacia en hospital

Antiinfecciosos

Programas de optimización del uso de los antimicrobianos

Encuestas y cuestionarios

Educación en farmacia

* Corresponding author.

E-mail address: leonord.perianez@ssib.es (L. Periañez-Parraga).

experiencia en el área de enfermedades infecciosas fue de 5 años (RIC 2-10). Los programas de optimización del uso de antimicrobianos (PROA) representaron la principal área de especialización (73,9%; IC 95%: 63,2-84,5), seguido de la monitorización farmacocinética (16,9%; IC 95%: 7,8-26,0). Las prioridades de los adheridos fueron recibir formación y docencia (52,3%; IC 95%: 40,2-64,5%) así como compartir dudas y experiencias (27,7%; IC 95%: 16,8-38,6). El 50,0% (IC 95%: 39,0-61,0) de los encuestados consideró que podría aportar ideas y experiencias, el 31,3% (IC 95%: 21,1-41,4) colaborar en proyectos de investigación y el 18,7% (IC 95%: 10,2-27,3) participar en actividades docentes y otras actividades del grupo.

Conclusión: este estudio ha permitido conocer mejor el perfil profesional del farmacéutico adherido al grupo AFinf y analizar sus inquietudes y posibles aportaciones.

© 2025 Sociedad Española de Farmacia Hospitalaria (S.E.F.H). Publicado por Elsevier España, S.L.U. Este es un artículo Open Access bajo la licencia CC BY-NC-ND (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Introduction

Hospital pharmacy is a speciality that optimises patient health and contributes to the safe, effective, and appropriate use of medicines.¹

The Spanish Society of Hospital Pharmacy (SEFH) is the largest representative body for hospital pharmacists in Spain.² Studies have shown that commitment to projects promoted by the SEFH helps to prioritise improvement actions within hospital pharmacy services, with a positive impact on the quality of pharmaceutical practice.¹

One of the fundamental pillars of the SEFH is its working groups. The society supports, regulates, and funds these groups to promote professional development in specific areas.³

Each group comprises a governing body consisting of a coordinator, a secretary, and a spokesperson, as well as a coordinating committee of up to 8 members, which is responsible for implementing the different projects and strategic lines.³

The coordinator and secretary positions are elected by a simple majority vote among the members of the coordinating committee, following an internal call for nominations. The coordinating committee is renewed through a public call for nominations, which is open to all SEFH members, followed by an academic and professional evaluation of the candidates by the group. Finally, the spokesperson is appointed directly by the board of directors of the SEFH. These 11 members lead the working group's initiatives and activities, which are open to all SEFH members.³

Working groups may include 1 or 2 fellows with specific functions, a resident non-specialist pharmacist—all of whom are selected by the group's governing body through a public call for applications among SEFH members—as well as several senior consultants (usually former members of the group's governing body).³

In addition, the working groups are complemented by affiliated members, who are professionals aligned with the groups' areas of interest. Their role is to assist and support the group's activities, thereby enabling the participation of an unlimited number of SEFH members committed to the working groups' objectives.³

Currently, the SEFH has 29 working groups, whose main objective is to promote, coordinate, and update the specific areas of work conducted by pharmacy services.³

The Pharmaceutical Care in Infectious Diseases (Spanish acronym: AFinf) group comprises professionals who share the common goal of promoting and standardising the work conducted in hospital pharmacy services in the areas of antibiotic therapy and antimicrobial control policies.⁴

By July 2025, the AFinf group comprised 232 hospital pharmacists, including the governing body, fellows, resident pharmacists, senior consultants, and affiliated members, following the addition of 59 new members between February 2024 and July 2025.

This study aimed to analyse the professional profiles, concerns, and potential contributions of affiliated members of the SEFH AFinf group, with a view to better guiding its initiatives.

Methods

We conducted a survey in Spain of pharmacists affiliated with the AFinf working group. Participation was voluntary. The survey comprised 5 questions (see Table 1). The first 3 questions addressed the professional profiles of the affiliated members, the fourth focused on their concerns regarding the AFinf group, and the fifth explored how members could contribute to the group.

The survey was launched in March 2023 on an online platform via the working group's internal communication list hosted by the SEFH. The society sent an email to all registered AFinf members based on information previously provided by each professional. To encourage participation, a reminder was sent via the same channel in October 2023. Data collection was completed in February 2024, and the online platform allowed the results to be exported to an Excel database.

The respondents were asked about the group's areas of interest, including antimicrobial stewardship programmes (ASPs), therapeutic drug monitoring (TDM), and home intravenous antimicrobial treatment (HIAT).

Multidisciplinary ASP teams aim to improve clinical outcomes in patients with infections, minimise adverse effects associated with antimicrobial use (including the emergence and spread of resistance), and ensure the use of cost-effective treatments.⁵ Hospital pharmacists play a key role within teams due to their knowledge of antimicrobials.

The use of TDM effectively guides dosage adjustments to ensure therapeutic antimicrobial concentrations, particularly for certain drugs and clinical situations with a high risk of variability in exposure.⁶ Hospital pharmacists interpret these levels and propose individualised therapeutic regimens to physicians, using population pharmacokinetic models.

Finally, HIAT (or outpatient parenteral antimicrobial therapy) is the administration of intravenous antimicrobial therapy at the patient's home, thereby avoiding prolonged hospital stays and the associated costs. Using elastomeric infusion pumps has also proven to be an effective way of optimising the pharmacokinetics and pharmacodynamics of time-dependent antimicrobials.⁷ Hospital pharmacists are responsible for preparing these pumps and for ensuring that the mixture remains stable until the patient has received their full dose of the drug.

We conducted a descriptive statistical analysis. Qualitative variables are expressed as relative frequencies with 95% confidence intervals (95% CI), and quantitative variables as medians and interquartile ranges (IQR: p25–p75).

Results

As of the study cut-off date in February 2024, the AFinf group comprised 173 members: 1 coordinator, 1 secretary, 1 spokesperson, up to 8 members of the coordinating committee, 1 fellow, 1 resident, 4 senior consultants, and 156 affiliated members. A total of 65 (41.7%) affiliated members responded to the survey. Table 2 shows the complete results of the survey.

Table 1
 Survey distributed to the affiliated members of the AFinf group.

How many years of experience do you have in the field of infectious diseases?			
What percentage of your working day do you dedicate to this field?			
<25%	50%	>75%	100% (fully dedicated)
In which area are you most specialised?			
ASP	TDM	HIAT	Other
What do you expect to gain from the AFinf group as an affiliated member? Rank your priorities from 1 to 3:			
Training and teaching	Participation in research projects	Opportunities to create networks to share questions or experiences with other colleagues	
Other (open field)			
Based on your experience, what do you think you can contribute to the AFinf group as an affiliated member? (open field)			

AFinf, pharmaceutical care in infectious diseases; ASP, antimicrobial stewardship programme; TDM, therapeutic drug monitoring; HIAT, home intravenous antimicrobial treatment.

The respondents had a median of 5 (IQR 2–10) years' experience in the field of infectious diseases.

Half of the respondents reported dedicating less than 25% of their working day to infectious diseases (50.7% [95% CI: 38.6–62.9]).

The main area of specialisation was ASP (73.9%; 95% CI: 63.2–84.5), followed by TDM (16.9%; 95% CI: 7.8–26.0), and HIAT (3.1%; 95% CI: 1.1–7.3). Other areas of specialisation (6.1%) reported by respondents included management (procurement, consumption monitoring, indicators), adjustment of antimicrobials in specific situations (chronic kidney disease, liver failure, obesity, or extracorporeal purification techniques), and pharmaceutical care for patients with human immunodeficiency virus.

The first priority for affiliated members was for the AFinf group to provide training and education (52.3%; 95% CI: 40.2–64.5), followed by sharing questions and experiences (27.7%; 95% CI: 16.8–38.6), and participation in research projects (20.0%; 95% CI: 10.3–29.7).

The second priority was to create a channel for sharing questions and experiences (33.9%; 95% CI: 22.3–45.3), training and teaching (32.3%; 95% CI: 20.9–43.7), and participation in research projects (33.8%; 95% CI: 22.3–45.3).

Finally, the third priority was participation in research projects (46.1%; 95% CI: 34.0–58.3).

Other needs included developing shared knowledge (58.8%; 95% CI: 35.4–82.2), exchanging ideas and innovative practices (23.5%; 95% CI: 3.4–43.7), and obtaining help or advice in clinical practice (17.7%; 95% CI: 0.5–35.8).

Finally, the respondents identified 3 main areas in which their participation could add value to the AFinf group: exchanging ideas and experiences from their work in infectious diseases (50.0%; 95% CI: 39.0–61.0); collaborating on multicentre research projects (31.3%; 95% CI: 21.1–41.4); and participating in teaching activities or other initiatives promoted by the group (18.7%; 95% CI: 10.2–27.3).

Table 2
 Results of the AFinf affiliated membership survey.

Number of responses	65			
1. How many years of experience do you have in the field of infectious diseases? Median, IQR (25–75)	5 y	2–10 y		
2. What percentage of your working day do you dedicate to this field? Frequency (95%CI)	<25% 50.7 (38.6–62.9)	50% 43.1 (31.0–55.1)	>75% 6.2 (0.3–12.0)	
3. In which area are you most specialised? Frequency (95%CI)	ASP 73.9 (63.2–84.5)	TDM 16.9 (7.8–26.0)	HIAT 3.1 (1–7)	Other 6.1 (0.3–12.0)
4. What do you expect to gain from the AFinf group as an affiliated member? Rank your priorities from 1 to 3: Priority 1 Frequency (95%CI) Priority 2 Frequency (95%CI) Priority 3 Frequency (95%CI) Other	Training and teaching 52.3 (40.2–64.5) 32.3 (20.9–43.7) 15.4 (6.6–24.2) Develop shared knowledge 58.8 (35.4–82.2)	Sharing questions/ experiences 27.7 (16.8–38.6) 33.9 (22.3–45.3) 38.5 (26.6–50.3) Exchange ideas/ innovative practices 23.5 (3.4–43.7)	Participating in research projects 20.0 (10.3–29.7) 33.8 (22.3–45.3) 46.1 (34.0–58.3) Receive practical help/ advice 17.7 (0.5–35.8)	
5. Based on your experience, what do you think you can contribute to the AFinf group as an affiliated member? Frequency (95%CI)	Exchange ideas/ experiences 50.0 (39.0–61.0)	Research/collaboration on projects 31.3 (21.1–41.4)	Participate in teaching/ group activities 18.7 (10.2–27.3)	

AFinf, pharmaceutical care in infectious diseases; ASPs, antimicrobial stewardship programmes; HIAT, home intravenous antimicrobial treatment.

Discussion

This study describes the professional profiles, concerns, and expectations of the affiliated AFinf group members. As far as we know, this is the first study of its kind conducted by a SEFH working group.

In Spain, policies for the rational use of antimicrobials have become a national priority. Antimicrobial stewardship programmes are the main areas of specialisation among members of the AFinf group (73.9% of respondents). Hospital pharmacists play a key role in ASP teams, working within multidisciplinary groups to improve the prognosis of patients receiving antimicrobial treatment, minimise adverse effects, control the emergence of resistance, and ensure the use of cost-effective therapies. These teams constitute a crucial institutional tool for addressing this silent pandemic.⁸ Ablakimova et al. conducted a systematic review and meta-analysis of ASP interventions for hospitalised patients with community-acquired pneumonia. They found that these interventions shortened the time to clinical stability (standardised mean difference = -0.16 [95% CI: -0.24 to -0.07]), reduced 30-day mortality (odds ratio [OR] = 0.69 [5%CI: 0.56–0.85]), improved the diagnostic efficacy of *Legionella spp* urinary antigen testing (OR = 2.91 [95% CI: 1.56–5.42]), and enhanced adherence to timely antibiotic administration within the first 8 h of admission [OR = 1.32; 95% CI: 1.02–1.72].⁹

In addition to the elected members of the group's governing body (1 coordinator, 1 secretary, 1 spokesperson, and a coordinating committee of up to 8 members), the unlimited number of affiliated members enables the broader participation of pharmacists working within the group's area of interest. This structure promotes active feedback from members interested in the specialisation covered by the working group.

However, some affiliated members may feel under-represented or distanced from the coordinating group, despite efforts to ensure smooth interaction between them and involve affiliated members in organising

and participating in the group's activities (e.g. conferences, courses, and seminars).

The results of this survey, launched by the group's governing body, indicate that affiliated members can be characterised as professionals who have worked in anti-infective therapy for a median of less than 7 years. They dedicate less than 50% of their working day to infectious diseases, primarily in the area of ASP, and expect to receive training and teaching from the group as their first priority. They also expect to receive assistance in resolving questions and sharing experiences as their second priority.

Members also expressed interest in developing shared knowledge as a team and exchanging ideas and innovative practices implemented by expert pharmacists in other hospitals, with a view to applying them in their own daily clinical practice.

Finally, they also expressed their willingness to exchange ideas and experiences in their daily practice, collaborate on research projects, and participate in teaching activities and other initiatives promoted by the AFinf group.

To address these aspects, the AFinf group's coordinating committee has implemented an open communication channel via the Telegram platform, enabling the immediate exchange of questions, clinical cases, and experiences, thereby promoting more inclusive collaboration. A further development is that members now have the opportunity to participate in and collaborate on activities promoted by the coordinating group, including courses, online seminars, and the quarterly publication of the therapeutic update bulletin on infectious diseases.

A key strength of this study is that it is the first of its kind to analyse the profile of affiliated members, enabling the implementation of improvement strategies aimed at highlighting and leveraging their potential and knowledge. However, the low response rate among members (41.7%) represents a significant limitation, as it reduces the representativeness of the findings.

In conclusion, this study characterises the profile of affiliated members, analyses their interests, and identifies how they could contribute to the working group, thereby laying the groundwork for a more participatory group aligned with members' needs.

Contribution to the scientific literature

This study provides an initial characterisation of the profile of the affiliated members of the Pharmaceutical Care in Infectious Diseases Working Group. It represents the coordinating group's first exploratory approach to better understand its affiliated members. In addition, the study describes the methodology used for this approach, highlights its relevance, and outlines the objectives achieved.

Declaration of authorship

Iván Oterino Moreira: data analysis, manuscript writing. Álvaro Eloy Monje López: data analysis, critical review, manuscript approval. Beatriz Mejuto: critical review, manuscript approval. Alba Pau-Parra: critical review, manuscript approval. Leonor Periañez Parraga: study design, critical review, manuscript approval. Sonia Luque Pardos: study design, data collection, critical review, manuscript approval.

Conflict of interest

The authors declare no conflicts of interest.

Acknowledgements

We would like to thank the 65 AFinf group members who responded to the survey sent by the coordinating group for their collaboration in this study (listed alphabetically): Aguilera Jiménez Verónica, Allende Bandres M. Ángeles, Álvarez Arroyo Laura, Arenere Mendoza Mercedes, Arteche Eguizabal Lorea, Barrantes González Melisa, Bilbao

Aguirregomezorta Jaione, Bonete Sánchez Manuel, Campelo Sánchez Eva, Caro Teller José Manuel, Carrión Madroñal Isabel María, Clavijos Bautista Sheila, Cobo Sacristán Sara, Conde Giner Silvia, Cortés Sánchez Carlos, Dani Ben Abdel-Lah Laila, De Temple Pla Marina, Del Pozo Ruiz Javier José, Egiús LUgea Amaia, Esnaola Barrena Eñaut, Fernández De Gamarra Martínez Eburne, Fraile Gallart M. José, Garay Sarría Cristina, García Agudo Sara, García Gómez Cristina, García-Calvo Navarro Jorge, Herrera Hidalgo Laura, Jaume Gayà María, Lázaro López Alicia, Leache Alegría Leire, López López-Cepero Marta, López Ramos María Goretti, Luque Pardos Sonia, Marcos Fendian Ángel, Martínez Martínez Isabel, Mejuto Pérez Del Molino Beatriz, Mesa Expósito Raquel, Miserachs Aranda Nuria, Mondelo García Cristina, Montoya Matellanes Julen, Moreno Villar Amparo, Murgadella Sancho Anna, Murillo Izquierdo Manuel, Ortonobes Roig Sara, Oterino Moreira Iván, Pascual Arce Begoña, Pérez Martín Cristo Yared, Periañez Parraga Leonor, Pinilla Rello Andrea, Ramos Santana Emma, Rodríguez Marín Marina, Rodríguez Mateos María Eugenia, Román Márquez Eva, Romero Candel Gregorio, Rubio Calvo Daniel, Sadyrbaeva Dolgova Svetlana, San Juan Muñoz Adriana, Silva Alexandre Sara, Tevar Alfonso Enrique, Tuset Creus Montserrat, Valdazo Martín Carlos, Valls Sánchez Ester, Viseda Torrellas Yurij, Yunquera Romero Lucia, Zayas Soriano Marta.

CRediT authorship contribution statement

Iván Oterino-Moreira: Writing – original draft, Methodology, Formal analysis, Data curation, Conceptualisation. **Álvaro-Eloy Monje-López:** Writing – review & editing, Validation, Methodology, Formal analysis, Data curation, Conceptualisation. **Beatriz Mejuto:** Writing – review & editing, Validation, Supervision, Conceptualisation. **Alba Pau-Parra:** Writing – review & editing, Validation, Supervision. **Leonor Periañez-Parraga:** Writing – review & editing, Validation, Supervision, Methodology, Investigation, Conceptualisation. **Sonia Luque:** Writing – review & editing, Validation, Supervision, Software, Resources, Methodology, Investigation, Conceptualisation.

Funding

This study has not received funding.

References

- López-Noguera Q, Pérez-Plasencia A, Gratacós-Santanach L, Dordà-Benito A, Díez-Vallejo C, Sacrest-Güell R. Evolución del proyecto 2020 de la Sociedad Española de Farmacia Hospitalaria en un servicio de farmacia hospitalaria. *Farm Hosp.* 2022;46(1):3–9. doi:10.7399/fh.11680.
- SEFH. Quiénes Somos. <https://www.sefh.es/quienes-somos.php>. Accessed July 7th 2025
- SEFH. Normativa de los grupos de trabajo de la sociedad española de farmacia hospitalaria. <https://www.sefh.es/grupo-de-trabajo-normativa-y-guias.php>. Published in 2015. Accessed July 7th 2025
- Grupo de trabajo AFinf. *Objetivos*. <https://gruposedetrabajo.sefh.es/afinf/objetivos> Accessed July 7th; 2025.
- Rodríguez-Baño J, Paño-Pardo JR, Alvarez-Rocha L, et al. Programas de optimización de uso de antimicrobianos (PROA) en hospitales españoles: documento de consenso GEIH-SEIMC, SEFH y SEMSPH. *Farm Hosp.* 2012;36(1). doi:10.1016/j.farma.2011.10.001. 33.e1–30.
- Pau-Parra A, Núñez-Núñez M, Sadyrbaeva-Dolgova S, et al. Encuesta nacional y elaboración de un documento de consenso sobre estrategias de dosificación de antibióticos beta-lactámicos frente a bacterias gram-negativas multirresistentes (BGN-MDR) en pacientes críticos sometidos a técnicas de soporte vital extracorpóreas: protocolo de estudio DOSEBL. *Farm Hosp.* 2025;49(3):T179–T183. doi:10.1016/j.farma.2024.11.005.
- Ferro Rodríguez S, Chantres Legaspi Y, Romay Lema EM, et al. Estudio retrospectivo de la terapia de infusión domiciliar de antibióticos en bombas de infusión elastoméricas. *Farm Hosp.* 2024;48(4):T153–T158. doi:10.1016/j.farma.2024.03.011.

I. Oterino-Moreira, Á.-E. Monje-López, B. Mejuto et al.

Farmacía Hospitalaria xxx (xxxx) 1–5

8. Agencia Española de Medicamentos y Productos Sanitarios (AEMPS). Ministerio de Sanidad, Servicios Socieales e Igualdad. Programas de optimización de uso de los antibióticos (PROA). <https://www.resistenciaantibioticos.es/es/lineas-de-accion/control/programas-de-optimizacion-de-uso-de-los-antibioticos-proa>. Published in 2017. Accessed July 7th 2025
9. Ablakimova N, Rachina S, Silva HR, et al. Antimicrobial stewardship interventions in hospitalized adults with community-acquired pneumonia: a systematic review and meta-analysis. *Eur J Clin Microbiol Infect Dis*. 2025;44(7):1533–1550. doi:10.1007/s10096-025-05122-8.