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Special article

[Translated article] Generational priorities, motivations, concerns, and expectations of hospital pharmacists in Spain

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ABSTRACT

Objective: To analyze generational differences in priorities, motivations, concerns, and professional expectations among pharmacists working in Hospital Pharmacy Services in Spain, in order to generate actionable evidence to guide strategies for managing intergenerational relationships and work engagement, as well as professional development and team well-being.

Method: Cross-sectional descriptive study based on an online survey of members of the Spanish Society of Hospital Pharmacists who were practicing as pharmacists or undergoing specialty training in Hospital Pharmacy Services in Spain. The questionnaire, reviewed by an expert panel, was administered from 16 to 29 January 2024 and comprised 18 items grouped into three sections: demographic data, socio-occupational context, and professional domain. Descriptive and between-generation comparative analyses were conducted using ANOVA, Kruskal–Wallis, Fisher's exact test, and χ^2 ($p < 0.05$).

Results: A total of 620 professionals participated (16% members). Recommendation of the hospital as a workplace was high and similar across generations; however, ratings of the Hospital Pharmacy Service and perceptions of the current status of Hospital Pharmacy differed, with higher scores among older cohorts. Work climate and work–life balance were the most valued job factors, with generational preferences differing for items such as teaching, professional recognition, and autonomy. Stress was the most frequently reported concern across all cohorts, with intergenerational differences in other work-related factors. Generational variation was also observed in key work concerns, professional motivations, perceptions of the current state of Hospital Pharmacy, and strategic priorities. Differences by generation were also observed in professional motivations and expectations, including institutional engagement and perceived future challenges in Hospital Pharmacy.

Conclusions: This study shows intergenerational differences in priorities, concerns, motivations, and expectations among hospital pharmacists. Although work climate and work–life balance remain among the most selected priorities and stress is the main concern across all cohorts, generation-specific patterns across the evaluated dimensions suggest the need for management and professional development approaches tailored to multigenerational teams.

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Prioridades, motivaciones, preocupaciones y expectativas generacionales de los farmacéuticos hospitalarios en España

Palabras clave:
Relaciones intergeneracionales
Compromiso laboral
Diversidad de la fuerza laboral

RESUMEN

Objetivo: analizar las diferencias generacionales en las prioridades, motivaciones, preocupaciones y expectativas de los profesionales farmacéuticos de los servicios de farmacia de los hospitales españoles, con el fin de generar información útil para orientar estrategias de gestión de las relaciones intergeneracionales y del compromiso laboral, así como de desarrollo profesional y bienestar en los equipos.

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Equilibrio entre vida personal y laboral
Motivación
Residencia
Farmacéutico

Método: estudio descriptivo y transversal mediante una encuesta virtual dirigida a los socios de la Sociedad Española de Farmacia Hospitalaria que desarrollaban su actividad profesional como farmacéuticos o estaban en período de formación especializada en los servicios de farmacia hospitalaria en España. El cuestionario, validado por un grupo de expertos y distribuido entre el 16 y el 29 de enero de 2024, incluía 18 preguntas organizadas en 3 bloques: datos demográficos, ámbito sociolaboral y ámbito profesional. Se realizó un análisis descriptivo y comparativo por generaciones mediante ANOVA, Kruskal-Wallis, test exacto de Fisher y χ^2 ($p < 0{,}05$).
Resultados: participaron 620 profesionales (16% miembros). La recomendación del hospital como centro de trabajo fue alta y similar entre generaciones; en cambio, la valoración del servicio de farmacia y la percepción del estado de la farmacia hospitalaria difirieron, con puntuaciones más altas en cohortes veteranas. En prioridades, el clima laboral y la conciliación destacaron en todas las generaciones; las cohortes veteranas otorgaron mayor peso al reconocimiento profesional y a la claridad de objetivos; las más jóvenes, al horario y la docencia, y las intermedias a la autonomía. El estrés fue la preocupación más frecuente en todas las cohortes, con diferencias intergeneracionales en otros factores laborales. También se observaron diferencias por generación en motivaciones y expectativas profesionales, incluyendo la proyección institucional y los retos futuros de la farmacia hospitalaria.
Conclusiones: este estudio muestra diferencias intergeneracionales en prioridades, preocupaciones, motivaciones y expectativas de los farmacéuticos hospitalarios. Aunque el clima laboral y la conciliación se mantienen entre las prioridades más seleccionadas y el estrés es la principal preocupación en todas las cohortes, los patrones diferenciales por generación a lo largo de las dimensiones evaluadas sugieren la necesidad de enfoques de gestión y desarrollo profesional adaptados a equipos multigeneracionales.

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Introduction

Generational diversity is commonplace in Hospital Pharmacy Departments (HPD). Social and technological shifts, along with severe financial crises and accelerated digitalization, have differentially shaped the values and attitudes of individuals throughout history[1]. In this context, a generation is defined as a group of people born at around the same time who share historical and social experiences that determine their personal and professional attitudes and expectations. Although start and end dates have not been established to separate generations, the average period is generally considered to be 15–20 years[2,3].

Currently, four generations coexist in HPDs: Baby Boomers (1946–1964); Generation X (1965–1980); Millennials – or Generation Y (1981–1996); and Generation Z (1997–2012). Every of these generations has been attributed with differential traits, namely: Baby Boomers are responsible and prefer face-to-face interaction and communication; Gen X is independent and experienced migration from the analogical to the digital era; Millennials are collaborative, purposeful and value work-life balance. Finally, Gen Z is characterized by hyperconnectivity and excellent learning and content-generation skills[2,3].

In healthcare settings, age diversity has been identified both as an opportunity and a challenge. Intergenerational diversity sparks innovative decision-making practices and improves healthcare standards. However, tensions may also arise from differences in expectations regarding leadership, career progression, social recognition, and life-work balance[1,3,4]. The evidence available shows variations in the level of professional engagement and satisfaction across generations, making tailored organizational strategies necessary to improve team performance[2,5,6]. Recent studies warn about the risk of stereotyping and emphasize that differences across generations are context-dependent. Some authors underline that not all individuals within a specific generation share the same values, but some of the differences observed may stem from structural factors, including career stage or work conditions[3]. Hence, generational labels may misguide organizational or educational strategies[3].

In the context of public health and health sciences education, studies have found Millennials and Gen Z to value collaborative work environments, career progression opportunities, social responsibility, and innovative organizational cultures, which determine their institutional loyalty and rapport with workmates[7–10]. Although cross-generational differences are not clear-cut, the institutional engagement and loyalty of younger generations can be strengthened by adopting tailored management strategies and organizing work according to their expectations[11,12].

There is extensive evidence on the impact of intergenerational differences in the workplace[1,5,7]. In the setting of Hospital Pharmacy (HP), however, the evidence available is still limited. The clinical setting has witnessed rapid transformations, including digitalization, a paradigm shift toward outcome-oriented approaches, and the emergence of new professional roles[13]. In this context, the need arises to better understand how the different generations in work teams perceive these changes[14]. Understanding these dynamics will contribute to anticipating the challenges of generational change and maintaining professional motivation. A deeper knowledge will also help tailor management, education and development policies to the expectations and values of hospital pharmacy specialists[15]. This is crucial for creating more cohesive and sustainable work environments that attract and retain talent in an era where healthcare systems are under a deep transformation process[16]. Given the aforementioned, the objective of this study was to assess cross-generational differences in terms of priorities, motivations, concerns and expectations of hospital pharmacists in Spain. The ultimate purpose was to provide strategic directions to promote cross-generational rapport-building, enhance employee engagement, and support professional growth and well-being within teams.

Methods

A cross-sectional descriptive study was conducted through an electronic anonymous survey.

The study population included all Spanish Society of Hospital Pharmacy (SEFH) members working as hospital pharmacists or receiving HP training in Spain. Participation was voluntary. Non-probabilistic self-selection sampling (volunteer sample) was performed.

Survey design

A self-administered online survey was designed using Google Forms® and reviewed by a panel of experts for clarity and scope. Next,

the questionnaire was validated by a focus group. A pilot study was then carried out involving five participants who completed the questionnaire and provided feedback. Based on suggestions from participants, adjustments to the questionnaire format and phrasing were made for improved clarity and applicability.

The questionnaire included an introduction that defined the objectives of the study and clarified that participation was voluntary. The questionnaire was composed of 18 items structured into three dimensions: demographic data, social and professional environment, and professional specialty.

Participants were asked to rate their level of agreement with a set of statements on a 10-point Likert scale. Items were aimed at measuring their attitudes and behaviors toward their hospital/HPD, the relevance of social and environmental factors, and concerns about the cost of living.

Demographic and role-related items were closed multiple-choice questions. The block on expectations, concerns, motivations and challenges to hospital pharmacy contained closed multiple-choice questions with a maximum of three options.

Study variables

The variables collected included sociodemographic and work variables (generation, sex, autonomous community and role); general perception (recommendation of their hospital and pharmacy department); priorities (the most highly valued in any role and in their current role, relevance attributed to social and environmental factors, and HPD's priorities); concerns (concerns about the cost of living and what concerns them more about their current role); motivations (professional motivations) and expectations (institutions they want to connect with, perceived needs and the biggest future HP challenges).

Questionnaire distribution

The questionnaire was distributed using the SEFH's distribution list and via social networks (*X* and Instagram). The deadline for returning the questionnaire was two weeks, from January 16th to 29th, 2024.

Statistical analysis

A descriptive analysis of responses was performed. The statistical power was calculated, and intergenerational differences were assessed.

Quantitative variables were presented as mean and standard deviation or as median and interquartile range, as appropriate. The highest and lowest values were identified. Qualitative variables were expressed both as absolute and relative frequencies expressed as percentages.

Comparisons of central tendency were performed using analysis of variance (ANOVA) for normally distributed samples and the Kruskal-Wallis test for non-normally distributed samples. Associations between nominal qualitative variables were presented in contingency tables and assessed using Fisher's exact test and the chi-square (χ^2) test to evaluate independence between variables.

Statistical power was calculated based on the variable 'rate the current state of affairs in Hospital Pharmacy' (Item 16, Appendix 1). This variable was selected for being a general quantitative item (1–10 scale) applicable to all cohorts, making it suitable for estimating the power of between-group comparisons using the Kruskal-Wallis test.

A significance level of 0.05 was established. Simulation parameters included 1000 iterations; an initial power counter set to zero; and the following group sizes: Baby Boomers $=$ 38, X $=$ 184, Y $=$ 333 and Z $=$ 65.

Resampling with replacement was performed using Baby Boomer, Gen X, Gen Y and Gen Z sample sizes and applying the Kruskal-Wallis test at each iteration to determine whether differences between groups were statistically significant.

Ethical considerations

The survey was anonymous and voluntary. No identifiable personal or clinical data were collected, and results were analyzed aggregately. Informed consent was assumed to be granted if participants completed the questionnaire after reading the initial information. Approval from the Ethics Committee was not considered necessary, given the observational, anonymous, minimal-risk design of the study.

Results

Overall, 620 questionnaires were returned, accounting for a response rate of 15.9% (620/3898 SEFH members). Responses were obtained from participants from all autonomous communities. The final sample was representative of SEFH members in terms of generation, sex and professional category (Table 1).

General perceptions

A high proportion of participants recommended their hospitals as a good place to work, with no significant differences across generations. In contrast, opinions on their Pharmacy Departments as a good workplace differed significantly across cohorts. Additionally, significant differences were found regarding the reported state of affairs in HP in Spain, with poorer opinions among young participants (Table 2).

Priorities

All generations rated work atmosphere and work-life balance as a top priority. Intergenerational differences were observed, with

Table 1
Percentage of Spanish Society of Hospital Pharmacy members and participants.

		SEFH member % (N = 3898)	Response % (N = 620)
Generation	*Baby Boomer*	8.2	6.1
	X	32.1	29.7
	Millennial	51.9	53.7
	Z	7.7	10.5
Sex	Male	25.8	26.3
	Female	74.1	73.2
	Prefer not to say	0.1	0.5
Role	Pharmacy Resident	13.9	22.4
	Assistant	69.8	63.1
	Head of Section	1.3	4.7
	Head of Department/Service Lead	9.1	8.9
	Other	6.0	1.0
Autonomous community	Andalusia		9.8
	Aragon		2.3
	Asturias		2.3
	Cantabria		2.4
	Castilla La Mancha		4.7
	Castilla y León		5.6
	Catalonia		17.6
	Valencian Community		8.7
	Extremadura		1.5
	Galicia		3.4
	Balearic Islands		4.2
	Canary Islands		1.5
	La Rioja		0.6
	Madrid		28.4
	Murcia		2.1
	Navarra		1.6
	Basque Country		4.4

SEFH: Spanish Society of Hospital Pharmacy; PR: Pharmacy Resident; N: Number; %: Percentage.

Table 2
Cross-generational differences in general perceptions.

Questions	*Baby Boomer* (N = 38)	X (N = 184)	Millennial (N = 333)	Z (N = 65)	Total (N = 620)	*p**
Would you recommend your hospital to other healthcare providers as a good place to work?						0.63
- Mean (SD)	8.05 (1.09)	7.91 (1.65)	7.68 (1.86)	7.97 (1.45)	7.80 (1.72)	
- Median (Q1; Q3)	8.00 (7.00; 9.00)	8.00 (7.00; 9.00)	8.00 (7.00; 9.00)	8.00 (7.00; 9.00)	8.00 (7.00; 9.00)	
- Range	5.00–10.00	1.00–10.00	1.00–10.00	2.00–10.00	1.00–10.00	
Would you recommend your Pharmacy Department to other hospital pharmacist specialists?						0.003
- Mean (SD)	8.08 (1.71)	8.03 (1.82)	7.41 (2.17)	7.66 (1.75)	7.66 (2.02)	
- Median (Q1; Q3)	8.00 (8.00; 9.00)	8.00 (7.00; 9.00)	8.00 (7.00; 9.00)	8.00 (7.00; 9.00)	8.00 (7.00; 9.00)	
- Range	3.00–10.00	1.00–10.00	1.00–10.00	2.00–10.00	1.00–10.00	
Rate the current state of affairs in Hospital Pharmacy in Spain						<0.001
- Mean (SD)	7.89 (0.89)	7.47 (1.13)	6.95 (1.25)	6.82 (1.04)	7.15 (1.22)	
- Median (Q1; Q3)	8.00 (7.25; 8.00)	8.00 (7.00; 8.00)	7.00 (6.00; 8.00)	7.00 (6.00; 7.00)	7.00 (7.00; 8.00)	
- Range	5.00–9.00	4.00–10.00	1.00–10.00	2.00–9.00	1.00–10.00	

SD: standard deviation; Q1: 1st quartile; Q3: 3rd quartile; N: Number of participants; *p*: value of statistical significance.
* Statistical test: Kruskal-Wallis test.

professional recognition and clearly defined goals ranking first among senior cohorts. Conversely, the most highly valued factors by younger generations were working hours and training opportunities. Intermediate generations rated independence higher. Age-based differences were also observed regarding the relevance attributed to environmental factors (Table 3).

Concerns

Concern about the cost of living differed across generations. In relation to their role, stress was prevalent across all generations. There were intergenerational differences in how each generation values working hours and salary (more important to younger generations); work-life balance and instability (more relevant to intermediate/younger generations); and responsibility and work atmosphere (more important to senior generations) (Table 4).

Motivations

A heterogeneous pattern was noted regarding professional motivations, with significant differences in motivations related to clinical outcomes, system efficiency, professional visibility and research (Table 5).

Expectations

Expectations differed across generations in terms of the institutions considered to be a priority. Younger generations showed more interest in international scientific associations, whereas senior cohorts gave priority to healthcare authorities. Differential patterns were observed in perceived needs and future challenges regarding training, clinical integration, digitalization and management (Table 6).

Discussion

To the best of our knowledge, this is the first study to analyze generational differences in the priorities, motivations, concerns and expectations of hospital pharmacy specialists. The results demonstrate some consistencies across generations, including recommendations of their hospitals as a good place to work and the relevance attributed to work atmosphere. However, significant differences were observed in key aspects of the professional and social environment.

The most highly valued factors across all generations included work atmosphere, work-life balance, and stability. These top-priority role-related aspects have been consistently identified in the literature as determinants of talent retention and the well-being and motivation of healthcare professionals. The influence of these factors extends when combined with effective leadership styles and career progress opportunities[17]. However, variations in preferences were noted across generations, namely: Baby Boomers prioritize professional recognition and clearly defined goals; Gen X values independence and engagement in multidisciplinary teams; whereas Gen Z shows more interest in training opportunities. These differences may be influenced by career stage and the professional expectations tied to their developmental stage in the hospital[18].

Work-related concerns differed significantly across generations, showing a strong correlation with personal and professional stages. Although stress, work-life balance and communication barriers were common to all generations, Gen Z was more concerned about working hours and salary, whereas work-life balance and job instability were common concerns among Millennials. Senior generations tended to value the work atmosphere more. These findings underline the need to adapt organizational strategies to the particularities of each generation. Initiatives should be implemented to improve work-life balance, flexibility, and professional recognition while building a positive work atmosphere. These initiatives would result in enhanced professional satisfaction and prevent burnout situations[19,20].

There is cumulative evidence of a differential impact of stress across generations, added to distinctive reactions to stressful situations[20,21]. Measures should be adopted to provide flexible working hours and mental health support services and foster institutional recognition, with a more significant impact on younger generations[8,15,17,22]. In this context, organizations should transition from a homogeneous model into structures that are sensitive to intergenerational diversity, with tailored policies aimed at meeting the specific needs of each group.

Beyond specific concerns, our findings demonstrate a generational paradigm shift regarding the significance professionals attribute to work-life balance. Recent studies in other healthcare settings, including studies in surgery, underscore a paradigmatic transition from a work-life balance model toward a harmonized model in which work and personal life are dynamically integrated through adaptation and flexibility[4,21,23]. When these expectations are not adequately identified or fulfilled, friction arises between younger and older professionals in relation to working hours, allocation of responsibilities and the scope of engagement with the institution[24]. Advancing toward more inclusive work environments adapted to the different professional stages of their members may not only enhance intergenerational coexistence but also strengthen cohesion, talent retention and team performance[25].

Our research also provides an insight into the professional motivations that drive hospital pharmacy specialists. Enhancing patient care and healthcare efficiency, as well as strengthening professional leadership, were among the most valued goals across all generations. However, significant nuances were identified among cohorts. Younger generations place greater importance on social visibility within their professional roles, reflecting Generation Z's strong orientation toward communication and meaningful social impact[1,8,18]. This value

Table 3
Intergenerational differences in general and professional priorities.

Most valued workplace-related factors						
Variable	Baby Boomer (N = 38) (n; %)	X (N = 184) (n; %)	Millennial (N = 333) (n; %)	Z (N = 65) (n; %)	Total (N = 620) (n; %)	*p*
Stability	11; 28.95	59; 32.07	143; 42.94	26; 40.00	239; 38.55	0.057*
Salary	5; 13.16	30; 16.30	83; 24.92	14; 21.54	132; 21.29	0.077*
Good work-life balance	14; 36.84	79; 42.93	168; 50.45	37; 56.92	298; 48.06	0.084*
Working hours	2; 5.26	18; 9.78	58; 17.42	10; 15.38	88; 14.19	0.039*
Optional on-call shifts	0; 0.00	2; 1.09	15; 4.50	4; 6.15	21; 3.39	0.055**
Training Opportunities	3; 7.89	10; 5.43	23; 6.91	11; 16.92	47; 7.58	0.039**
Research Opportunities	5; 13.16	7; 3.80	18; 5.41	2; 3.08	32; 5.16	0.134**
Independence	3; 7.89	19; 10.33	11; 3.30	1; 1.54	34; 5.48	0.004**
Professional development opportunities	17; 44.74	87; 47.28	116; 34.83	27; 41.54	247; 39.84	0.042*
Professional recognition	13; 34.21	33; 17.93	31; 9.31	5; 7.69	82; 13.23	<0.001*
Participation in working groups/multidisciplinary cooperation	4; 10.53	45; 24.46	54; 16.22	6; 9.23	109; 17.58	0.012*
Meaningful purpose	7; 18.42	18; 9.78	22; 6.61	1; 1.54	48; 7.74	0.011**
Good work environment	26; 68.42	118; 64.13	236; 70.85	48; 73.85	428; 69.03	0.347*
Most valued job-related factors						
Variable	*Baby Boomer* (N = 38) (n; %)	X (N = 184) (n; %)	Millennial (N = 333) (n; %)	Z (N = 65) (n; %)	Total (N = 620) (n; %)	*p*
Stability	16; 42.11	78; 42.39	119; 35.74	23; 35.38	236; 38.06	0.442*
Salary	5; 13.16	33; 19.93	81; 24.32	13; 20.00	132; 21.29	0.201*
Good work-life balance	8; 21.05	70; 38.04	119; 35.74	21; 31.31	218; 35.16	0.234*
Working hours	2; 5.26	37; 20.11	94; 28.23	13; 20.00	146; 23.55	0.005*
Optional on-call shifts	1; 2.63	6; 3.26	35; 10.51	9; 13.85	51; 8.23	0.003**
Training Opportunities	1; 2.63	8; 4.35	29; 8.71	14; 21.54	52; 8.39	0.001**
Research Opportunities	1; 2.63	7; 3.80	20; 6.01	4; 6.15	32; 5.16	0.662**
Independence	11; 28.95	44; 23.91	53; 15.92	8; 12.31	116; 18.71	0.025*
Professional development opportunities	11; 28.95	60; 32.61	106; 31.83	24; 36.92	201; 32.42	0.834*
Professional recognition	15; 39.47	40; 21.74	46; 13.81	6; 9.23	107; 17.26	<0.001*
Participation in working groups/multidisciplinary cooperation	9; 23.68	59; 32.07	60; 18.02	12; 18.46	140; 22.58	0.003*
Clear goals	3; 7.89	10; 5.43	17; 5.11	1; 1.54	31; 5.00	0.464**
Positive work atmosphere	23; 60.53	80; 43.48	182; 54.65	39; 60.00	324; 52.26	0.029*
How relevant are social aspects to you?						
Variable	*Baby boomer* (N = 38)	X (N = 184)	Millennial (N = 333)	Z (N = 65)	Total (N = 620)	*p*
- Mean (SD)	8.37 (1.26)	8.72 (1.27)	8.68 (1.53)	8.83 (1.62)	8.69 (1.45)	0.079***
- Median (Q1; Q3)	9.00 (8.00; 9.00)	9.00 (8.00; 10.00)	9.00 (8.00; 10.00)	9.00 (8.00; 10.00)	9.00 (8.00; 10.00)	
- Range	6.00–10.00	3.00–10.00	1.00–10.00	3.00–10.00	1.00–10.00	
How relevant are environmental aspects to you?						
Variable	*Baby boomer* (N = 38)	X (N = 184)	Millennial (N = 333)	Z (N = 65)	Total (N = 620)	*p*
- Mean (SD)	7.63 (1.72)	8.03 (1.49)	7.60 (1.98)	7.32 (1.89)	7.70 (1.83)	0.044***
- Median (Q1; Q3)	8.00 (6.00; 9.00)	8.00 (7.00; 9.00)	8.00 (7.00; 9.00)	7.00 (7.00; 9.00)	8.00 (7.00; 9.00)	
- Range	4.00–10.00	1.00–10.00	1.00–10.00	1.00–10.00	1.00–10.00	
Current priorities: your Pharmacy Department is currently working on						
Variable	*Baby boomer* (N = 38) (n; %)	X (N = 184) (n; %)	Millennial (N = 333) (n; %)	Z (N = 65) (n; %)	Total (N = 620) (n; %)	*p*
Efficient drug therapy management	24; 63.16	117; 63.59	178; 53.45	38; 58.46	357; 57.58	0.136*
Reorganization of processes	21; 55.26	91; 49.46	179; 53.75	24; 36.92	315; 50.81	0.086*
Equipment and healthcare technology upgrading	19; 50.00	86; 46.74	143; 42.92	25; 38.46	273; 44.03	0.557*
Telepharmacy and home dispensing of ambulatory patients and outpatients	9; 23.68	46; 25.00	88; 26.43	17; 26.15	160; 25.81	0.974*
Digital pharmacy: artificial intelligence, virtual reality	4; 10.53	13; 7.07	24; 7.21	5; 7.69	46; 7.42	0.822**
Integration into multidisciplinary teams	12; 31.58	77; 41.85	148; 44.44	32; 49.23	269; 43.39	0.335*
Super-specialization in new areas (emergencies, ICU patients, transplants…)	10; 26.32	43; 23.37	94; 28.23	19; 29.23	166; 26.77	0.648*
Integration with primary care and community pharmacies	3; 7.89	21; 11.41	23; 6.91	6; 9.23	53; 8.55	0.351**
Generational renewal	3; 7.89	5; 2.72	15; 4.50	5; 7.69	28; 4.52	0.197**
Humanization	4; 10.53	31; 16.85	59; 17.72	16; 24.62	110; 17.74	0.313*
Environmental Management	1; 2.63	6; 3.26	17; 5.11	5; 7.69	29; 4.68	0.461**

N: Number of participants; %: Percentage of total responses within each generation; SD: standard deviation; Q1: 1st quartile; Q3: third quartile; *p*: statistical significance values *p* as calculated by the chi-square test (*) or Fisher's exact test (**) for qualitative variables, and the Kruskal-Wallis test for Likert-like variables (***).

Table 4
Cross-generational differences in general and professional priorities.

Are you concerned about the cost of living?						
Variable	Baby Boomer (N = 38)	X (N = 184)	Millennial (N = 333)	Z (N = 65)	Total (N = 620)	p
- Mean (SD)	8.18 (1.39)	8.47 (1.51)	8.78 (1.28)	8.89 (1.32)	8.66 (1.38)	0.005***
- Median (Q1; Q3)	8.00 (7.00; 9.00)	9.00 (8.00; 10.00)	9.00 (8.00; 10.00)	9.00 (8.00; 10.00)	9.00 (8.00; 10.00)	
- Range	5.00–10.00	2.00–10.00	5.00–10.00	5.00–10.00	2.00–10.00	
Aspects you are most concerned about in your role						
Variable	Baby Boomer (N = 38) (n; %)	X (N = 184) (n; %)	Millennial (N = 333) (n; %)	Z (N = 65) (n; %)	Total (N = 620) (n; %)	p
The Boss	5; 13.16	23; 12.50	49; 14.71	8; 12.31	85; 13.71	0.890*
Stress	25; 65.79	124; 67.39	184; 55.26	37; 56.92	370; 59.68	0.045*
Working hours	1; 2.63	8; 4.35	28; 8.41	11; 16.92	48; 7.74	0.010**
Work-life balance	8; 21.05	52; 28.26	134; 40.24	20; 30.77	214; 34.52	0.009*
Salary	3; 7.89	20; 10.87	52; 15.62	20; 30.77%	95; 15.32	0.001*
Work atmosphere	14; 36.84	73; 39.67	96; 28.83	13; 20.00	196; 31.61	0.010*
Instability	3; 7.89	23; 12.50	159; 47.75	21; 32.31	206; 33.23	<0.001*
Responsibility	13; 34.21	50; 27.17	43; 12.91	13; 20.00	119; 19.19	<0.001*
Communication issues	18; 47.37	96; 52.17	140; 42.04	23; 35.38	277; 44.68	0.059*
Level of demand	13; 34.21	50; 27.17	48; 14.41	21; 32.31	132; 21.29	<0.001*

N: number of participants; %: percentage of total responses within each generation; SD: standard deviation; Q1: 1st quartile; Q3: third quartile; *p*: statistical significance values. *p* values were calculated by the chi-square test (*) or Fisher's exact test (**) for qualitative variables. *In single-choice questions, p corresponds to overall comparison across generations.*

framework helps explain their interest in developing a more visible and widely recognized professional identity. Gen X prioritized the system's efficiency and health outcome measurement, which is aligned with a more consolidated professional stage focused on management. These variations are not opposing, but provide the opportunity to broaden strategic approaches in hospital pharmacy departments; strategies should include a combination of innovation, efficiency and visibility. In agreement with Huizing[4], interpreting intergenerational differences from a constrained or simplistic perspective may strengthen stereotypes and limit the potential of a more cooperative intergenerational approach. Designing professional development policies that integrate differing intergenerational expectations is crucial for fostering collective engagement[11,26].

The study additionally explored how specialists perceive the future of HP by examining the needs that should guide their professional activities and identifying the institutions with which they would like to strengthen bonds. Top priorities include integrating pharmacists into multidisciplinary teams, measuring health outcomes and ensuring active patient follow-up. The relevance attributed by younger cohorts to clinical integration demonstrates a novel professional perspective based on collaborative work, cross-functionality, and active involvement in multidisciplinary teams, thereby underlining their role as catalysts of a paradigm shift[8,18,27]. This orientation toward more cooperative work environments is a distinctive trait of younger healthcare professionals, who reject rigid hierarchies and value inclusive approaches. These preferences are aligned with the SEFH 2030 strategy, which adopts an outcome-oriented approach based on integration into multidisciplinary teams, digitalization and meaningful social impact[28].

Participants consistently showed interest in connecting with scientific organizations and universities. Notably, younger cohorts exhibited a preference for international institutions, thereby reflecting a globally-oriented perspective, along with a willingness to engage in wider professional networks. This broadened approach may be crucial for meeting the ultimate goal of enhancing the visibility and role of hospital pharmacy in clinical settings. As exposed by the World Health Organization[14], integrating young professionals into transformative processes reinforces their sense of belonging. These practices contribute to the renewal of healthcare structures through a more participative and innovative approach aligned with global challenges. Fostering youth participation in the definition of priorities and building alliances with other organizations is crucial for fostering professional leadership[3] and driving change in hospital pharmacy.

Finally, participants demonstrated a positive perception of HP, although with significant intergenerational differences. Senior generations – Baby Boomers and Gen X[11] – reported higher levels of satisfaction with their specialty. This finding is consistent with previous studies revealing higher levels of satisfaction among senior

Table 5
Cross-generational differences in general and professional motivations.

Most relevant motivations						
Variable	*Baby boomer* (N = 38) (n; %)	X (N = 184) (n; %)	Millennial (N = 333) (n; %)	Z (N = 65) (n; %)	Total (N = 620) (n; %)	*p*
Measuring health outcomes	11; 28.95	70; 38.04	86; 25.83	16; 24.62	183; 29.52	0.025*
Promoting pharmacists as evaluation specialists not only for financial aspects	12; 31.58	30; 16.30	83; 24.92	14; 21.54	139; 22.42	0.071*
Compliance with health plans/management agreements	3; 7.89	9; 4.89	8; 2.40	0; 0.00	20; 3.23	0.054**
System efficiency	17; 44.74	105; 57.07	154; 46.25	24; 36.92	300; 48.39	0.021*
Strenghthening the leadership and public image of hospital pharmacy specialty in the hospital	19; 50.00	85; 46.20	143; 42.94	33; 50.77	280; 45.16	0.588*
Social visibility of hospital pharmacy	2; 5.26	33; 17.93	96; 28.83	29; 44.62	160; 25.81	<0.001*
Motivation for humanization	7; 18.42	46; 25.00	90; 27.03	11; 16.92	154; 24.84	0.275*
Improving patient care	31; 81.58	154; 83.70	271; 81.38	51; 78.46	507; 81.77	0.809*
Motivation for conducting research	6; 15.79	13; 7.07	61; 18.82	16; 24.62	96; 15.48	0.001*

N: number of participants; %: percentage within each generation; *p*: statistical significance values *p* values were calculated by the chi-square test (*) or Fisher's exact test (**).

Table 6
Intergenerational differences in general and professional expectations.

Which institutions would you like to connect with?						
Variable	*Baby Boomer* (N = 38) (n; %)	X (N = 184) (n; %)	Millennial (N = 333) (n; %)	Z (N = 65) (n; %)	Total (N = 620) (n; %)	*p*
National Scientific Society of the Specialty	31; 81.58	109; 59.24	237; 71.17	44; 67.69	421; 67.90	0,011*
International Scientific Society of the Specialty	5; 13.16	41; 22.28	109; 32.73	35; 53.85	190; 30.65	<0,001*
Other pharmaceutical scientific societies	2; 5.26	21; 11.48	55; 16.52	10; 15.38	88; 14.19	0,157*
Scientific societies of related professions	16; 42.11	102; 55.43	144; 43.24	25; 38.46	287; 46.29	0,026*
National Association	5; 13.16	8; 4.35	27; 8.11	1; 1.54	41; 6.61	0,034**
National and regional health authorities	27; 71.05	91; 49.46	117; 35.14	21; 32.31	256; 41.29	<0,001*
Universities	18; 47.37	105; 57.07	191; 57.36	33; 50.77	347; 55.97	0,531*
Pharmaceutical industry	3; 7.89	15; 8.15	48; 14.41	20; 30.77	86; 13.87	<0,001*
Technological/IT industry	5; 13.16	46; 25.00	48; 14.41	3; 4.62	102; 16.45	<0,001*
Needs that hospital pharmacy departments should address						
Variable	*Baby boomer* (N = 38) (n; %)	X (N = 184) (n; %)	Millennial (N = 333) (n; %)	Z (N = 65) (n; %)	Total (N = 620) (n; %)	*p*
Control of pharmaceutical expenditure	4; 10.53	19; 10.33	56; 16.82	13; 20.00	92; 14.84	0,115*
Health outcome evaluation and measurement reporting systems	23; 60.53	113; 61.41	143; 42.94	16; 24.62	295; 47.58	< 0,001*
Automation, technological development and digital pharmacy	11; 28.95	74; 40.22	86; 25.83	13; 20.00	184; 29.68	0,002*
Telemedicine/Telepharmacy/home delivery	6; 15.79	18; 9.78	25; 7.51	3; 4.62	52; 8.39	0,204**
Communication strategies and use of social networks	8; 21.05	15; 8.15	17; 5.11	2; 3.08	42; 6.77	0,005**
Training	3; 7.89	18; 9.84	57; 17.12	23; 35.38	101; 16.29	<0,001*
Research	6; 15.79	44; 23.91	78; 23.42	18; 27.69	146; 23.55	0,592*
Active patient care and follow-up	20; 52.63	95; 51.63	167; 50.15	35; 53.85	317; 51.13	0,946*
Integration of hospital pharmacy into clinical departments	22; 57.89	113; 61.41	269; 80.78	58; 89.23	462; 74.52	<0,001*
Integration of hospital pharmacies into primary care and community pharmacies	11; 28.95	39; 21.20	96; 28.83	14; 21.54	160; 25.81	0,217*
The greatest challenge to Hospital Pharmacy						
Variable	*Baby boomer* (N = 38) (n; %)	X (N = 184) (n; %)	Millennial (N = 333) (n; %)	Z (N = 65) (n; %)	Total (N = 620) (n; %)	p
Updating	2; 5.26	3; 1.63	8; 2.40	1; 1.54	14; 2.26	0,002*
Digitalization	11; 28.95	59; 32.07	72; 21.62	13; 20.00	155; 25.00	
Efficient management	8; 21.05	15; 8.15	35; 10.51	4; 6.15	62; 10.00	
Humanization	0; 0.00	6; 3.26	7; 2.10	0; 0.00	13; 2.10	
Integration into primary care	6; 15.79	18; 9.78	16; 4.80	3; 4.61	43; 6.93	
Integration into multidisciplinary teams	4; 10.53	21; 11.41	65; 19.52	21; 32.31	111; 17.90	
Generational change	1; 2.63	11; 5.98	14; 4.20	1; 1.54	27; 4.35	
Reorganization	2; 5.26	19; 10.33	32; 9.61	2; 3.23	55; 8.87	
Superspecialization	4; 10.53	21; 11.41	67; 20.18	17; 26.15	109; 17.58	
Telepharmacy	0; 0.00	4; 2.17	2; 0.60	1; 1.54	7; 1.13	

N: number of participants; %: percentage within each generation; *p*: statistical significance values *p* as calculated by the chi-square test (*) or Fisher's exact test (**) for qualitative variables. *In single-choice questions, p corresponds to overall comparison across generations.*

professionals[29,30]. This could be explained by a stronger engagement with their organizations and a consolidated sense of belonging, which is distinctive of professionals with longer, stable, professional careers[29].

One of the strengths of this study lies in the size and representativeness of the sample, which included professionals from all active HPD generations from all autonomous communities, thereby guaranteeing an updated global overview of the national context. However, this research is not exempt from some limitations. Firstly, the cross-sectional design involving non-probabilistic self-selection sampling requires a cautious interpretation and generalization of results, as probabilistic sampling error cannot be estimated. Although the sample was large, it included professionals from across the country and showed a distribution by generation and sex comparable to that of the SEFH overall membership. Baby Boomers were the least represented cohort, which may reduce the precision of estimates for this group. In addition, as participation was voluntary, a potential self-selection bias may have occurred related to the interest or motivation of those who chose to respond. Furthermore, the cross-sectional design precludes the establishment of causal relationships between the variables analyzed.

Future research should move beyond descriptive approaches and focus on evaluating the impact of specific strategies for managing intergenerational dynamics. Further studies should be conducted to assess the impact of measures such as greater organizational flexibility, bidirectional mentorship programs, or individualized career pathways on key outcomes such as job satisfaction, retention, work atmosphere, and work-life balance across generations.

In conclusion, this study reveals intergenerational differences in the priorities, concerns, motivations, and expectations of hospital pharmacists. Work atmosphere and work-life integration remain among the most frequently selected priorities, with stress emerging as the main concern across all cohorts. The distinct generational patterns observed across the evaluated dimensions underscore the need for tailored management and professional development approaches in multigenerational teams.

Contribution to the scientific literature

This study describes generational differences in terms of priorities and motivations among age cohorts of hospital pharmacy specialists in Spain.

Understanding intergenerational differences enables the identification of specific needs and the development of tailored organizational and professional development practices aimed at improving the well-being of multigenerational teams.

CRediT authorship contribution statement

Covadonga Pérez Menéndez Conde: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Methodology, Investigation, Data curation, Conceptualization. **Beatriz Martínez Castro:** Writing – review & editing, Visualization, Validation, Methodology, Formal analysis, Data curation, Conceptualization. **María Pérez Abánades:** Writing – review & editing, Writing – original draft, Validation, Methodology, Formal analysis, Data curation, Conceptualization. **Edurne Fernández de Gamarra-Martínez:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Project administration, Methodology, Investigation, Formal analysis, Conceptualization. **Eva Negro-Vega:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

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Conflict of interest

The authors declare no conflicts of interest associated with this publication.

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Appendix A. Supplementary Data

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