



# The Glass Ceiling Phenomenon in Medicine Analysis of the State of Human Resources of the Medical Profession in the Republic of Croatia\*

Maja Vizjak<sup>1</sup> 

Received: August 30, 2024

Revised: January 19, 2025

Accepted: February 19, 2025

Published: April 5, 2025

## Keywords:

Women in medicine;  
Glass ceiling phenomenon;  
Human resources;  
Management in healthcare organizations;  
Entrepreneurship in medicine;  
Statistical data of healthcare in the Republic of Croatia



Creative Commons Non Commercial CC BY-NC: This article is distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 License (<https://creativecommons.org/licenses/by-nc/4.0/>) which permits non-commercial use, reproduction and distribution of the work without further permission.

**Abstract:** Human resources in medicine are becoming more and more numerous, it is a constantly growing sector that is strengthening qualitatively and quantitatively in Croatia. Medical women with completed post-graduate studies and with elections for scientific positions dominate to a decent degree, while the selection for higher scientific positions is dominated by men. Women in medicine dominate numerically, and in 5 out of a total of 61 hospital institutions, there are more doctors, but not in leading management positions. Currently, there are no female directors of clinical hospital centers and clinical hospitals as the largest hospital institutions in Croatia. When representatives are elected in professional chambers, male representatives dominate. Entrepreneurship in medicine is dominated by men, only in the field of general medical practice is it dominated by women. Analyzing the ratios of representation of women and men according to hierarchies in medicine, one gets the impression that there are equals among equals. The behavior pattern of the practice of deciding on promotion, decisions on entrepreneurship, and taking on management or representative roles are on the side of men. This paper aims to investigate the phenomenon of the glass ceiling in medicine in Croatia. The research methodology is a survey questionnaire and analysis of statistical data from reports in medicine. For additional data analysis, the Statistical Package for Social Sciences Analysis Older was used, which confirmed that older age groups of women express stronger feelings towards the existence of the glass ceiling. The contribution of the research is to provide insight into the analysis of human resources in medicine and management in healthcare organizations in Croatia.

## 1. INTRODUCTION

Women have played a significant, although often neglected, role in medicine throughout history, while today they occupy a dominant part of human resources in healthcare. The number of women graduating from medical schools and doctoral studies is higher than the number of men, but men dominate in high management positions such as directors of health institutions and higher scientific positions. The glass ceiling means blocked opportunities for women's promotion and development, a lower proportion of women at management levels, the probability of advancement and differences in salaries (Bain & Cummings, 2000). Unfortunately, women themselves play a role in creating glass ceilings (Smith et al., 2012). Women are progressing in their careers, but the inequality in salaries and promotions still eludes them. They can see the top, but they cannot get to the top (Bashir et al., 2021). The glass ceiling literature attributes a 'class penalty' to working-class women against a background of historical exclusion from elite occupations (Friedman & Laurison, 2020). Women have made slight progress in influencing power in working life (Berry, 2010). Today's world needs women in higher management positions (Akkaya & Üstgörül, 2020). Female leaders make a positive contribution to

<sup>1</sup> Institute for Research Migration, 10000 Zagreb, Croatia

\* The research was done as part of the section of the Medical Carousel project, as a part „From real to virtual migrations” – VRtualM financed by the NextGenerationEU.

organizations (Bektur & Arzova, 2022). Overcoming stereotypes means fighting the boys club network, balancing work and family, selecting mentors, understanding the queen bee syndrome, developing a leadership style, and determining personal aspirations for advancement (Baumgartner & Schneider, 2010). The introduction of quotas that promote the representation of women in management positions can be a temporary step towards long-term equality and this is what the law on companies from the Directive of the European Parliament and the Council (Directive, 2022/2381) aims to achieve.

## 2. RESEARCH METHODOLOGY

Data from reports, bulletins, and atlases of the Fine register were analyzed using statistical methods. The empirical part of the research was carried out during the spring of 2024 in such a way that requests for participation in the research were sent to the e-mail addresses of health institutions. In the research, for the purposes of quantitative data collection, a Google form survey questionnaire was used, and doctors were invited to fill out the survey. 408 respondents participated in the survey using the indirect method via electronic mail. The survey questionnaire consisted of questions in the general part in which demographic data were recorded (Table 1), a part of the survey consisting of a Likert scale with a total of 4 questions (Table 2) and an open question in which the examinees were invited to comment on their own observations of darkness, and 72 of them did so. Table 3 contains some selected comments from the respondents.

**Table 1.** Profile and characteristics of respondents of the survey part

		N	%
Gender	Male	0	0
	Feminine	408	100 %
	Else	0	0
Education level	Graduate study	374	92 %
	Doctorate	34	8 %
Age group	Less than 25	47	11 %
	26-35	45	11 %
	36-45	88	22 %
	46-55	131	32 %
	56-65	57	14 %
	More than 65	40	10 %
Health institution of employment	Clinical hospital centers	96	23 %
	General Hospital	62	15 %
	County Institute for Emergency Medicine	7	2 %
	Health center	80	19 %
	Clinical hospital	16	4 %
	Special hospital	34	8 %
	Polyclinic	17	4 %
	Private practice - doctor's office	13	3 %
	Special practice	7	2 %
	Clinic	14	3 %
	County Institute for Public Health	2	0 %
	Private practice - concessionaire	8	3 %
	Colleges of health care	3	2 %
	Spas	1	0 %
	Medical faculty	34	8 %
	The rest	17	4 %
Years of work service	Less than 5	47	12 %
	6-10	46	11 %
	11-25	180	44 %
	26-34	95	23 %
	More than 35	40	10 %

Source: Author's analysis

**Table 2.** Results of the Likert scale of the survey part of the research

Statement	1 - strongly disagree	2	3	4	5 - strongly agree
I believe that there is/feels like a glass ceiling phenomenon in the organization where I work	72 (17,7 %)	39 (9,6 %)	74 (18,2 %)	63 (15,5 %)	158 (38,9%)
I felt the glass ceiling phenomenon from the women in the organization where I work	73 (17,9 %)	41 (10,1 %)	70 (17,2 %)	68 (16,7%)	155 (38,1 %)
I felt the phenomenon of the glass ceiling from the men in the organization where I work	73 (18,1 %)	44 (10,9 %)	84 (20,8 %)	70 (17,3 %)	133 (32,9 %)
I believe that we are making progress as a society in terms of neutralizing gender differences	36 (8,9 %)	42 (10,4 %)	153 (37,8%)	76 (18,8%)	98 (24,2%)

**Source:** Author's analysis

**Table 3.** Selected comments from the interviewees

It is unfortunate that the phenomenon of the glass bell is felt by women in the work organization. I believe that the female population is a bigger problem than the male population, instead of being united to each other, we put up "barriers" so that some female colleagues would not be better than us or overshadow us. Especially this phenomenon comes from older colleagues. There is no more collegiality than competition, and in the end, the patient turns out.
Apparently, there is no glass ceiling, but in practice, it is very noticeable. Even more pronounced than a female boss, compared to a male boss.
I believe that nowadays, when the law protects women in the workplace, to claim that there is a glass ceiling phenomenon is an excuse and that women do not fight for themselves in the workplace, but expect someone else to fight for them. Women should be taught that if they are discriminated against on the basis of gender, they have to say it, sue and show it publicly, and not sit and whine in silence and resign themselves to their fate.
To a certain extent, this problem exists because women, by virtue of being women and mothers, are inevitably in a situation where they cannot dedicate a large part of their time to their careers, and the system is still not adapted to this (kindergartens that are close to the place of work and that also work afternoon, working from home to a certain extent, etc.).
A woman has to be far more successful than men in order to advance because it is considered that she cannot be good for more demanding roles at work in addition to other roles in life. If a woman sacrifices other life roles or does not want to have them (parenthood, marriage, etc.), she is considered more suitable for advancement. The same rule does not apply to men.
In the area where I work (higher education and clinical hospital center), the majority of employees are women, but the highest management positions are still mostly men. In the last ten years, there have been more visible changes on this front as well (deans, rectors, vice-deans, etc.), but only because these are actually underpaid positions. This does not necessarily apply to management positions (but those too!), but to initial positions from which one moves forward.
Men are provided with more options and opportunities than women.
I believe that a woman has to give much more of herself to work in order to be respected by male colleagues.
Croatia is still a "boys club".

**Source:** Author's analysis

The empirical part of the research concludes that the majority of respondents believe that there is/ feels like a glass ceiling phenomenon in the organization where they work and that it is promoted by male colleagues as well as by women themselves. The largest percentage of respondents generally believe that we are making progress as a society in terms of neutralizing gender differences. The comments shown in Table 3 support the responses and provide context to the Likert scale responses.

### 3. RESULTS

Statistical Package for Social Sciences Analysis was used for further data analysis. In order to determine the possible existence of differences in relation to the stated claims, a one-way analysis of variance was performed. Before carrying out the analysis of variance itself, a test of homogeneity of variances (Levene's test) was carried out and the variances were found to be homogeneous. The distribution of the results is also normal, which fulfills the assumptions for the implementation of the analysis of variance. Analysis of variance showed that there is a statistically significant difference between age groups in all tested statements ( $p < 0.01$ ). Post-hoc Tukey HSD test was used to test differences between individual groups.

The statement about the glass ceiling phenomenon in the organization establishes a difference between age groups 0 and 3 ( $p < 0.01$ ), as well as between groups 0 and 5 ( $p < 0.01$ ), which suggests that older age groups feel the glass ceiling phenomenon more than younger groups.

I believe that there is/feels like a glass ceiling phenomenon in the organization where I work	0 i 3 ( $p < 0.01$ )	0 i 5 ( $p < 0.01$ )
--	----------------------	----------------------

**Source:** Author's analysis from SPSS

The statement "I felt the glass ceiling phenomenon from women," establishes a difference between group 0 and groups 3 and 5 ( $p < 0.01$ ), which means that older age groups believe that women are exposed to the glass ceiling phenomenon more than younger groups.

I believe that there is/feels like a glass ceiling phenomenon in the organization where I work	0 ( $p < 0.01$ )	3 i 5 ( $p < 0.01$ )
--	------------------	----------------------

**Source:** Author's analysis from SPSS

The statement "I felt the glass ceiling phenomenon from men" establishes a difference between groups 0 and 3 ( $p < 0.05$ ) and 5 ( $p < 0.01$ ), as well as between groups 1 and 5 ( $p < 0.01$ ). Older age groups express stronger feelings about the existence of a glass ceiling caused by men.

I felt the phenomenon of the glass ceiling from the men in the organization where I work	0 i 3 ( $p < 0.05$ )	5 ( $p < 0.01$ )
--	----------------------	------------------

**Source:** Author's analysis from SPSS

The statement of progress in neutralizing gender differences, establishes differences between groups 1 and 5 ( $p < 0.01$ ), as well as between groups 3 and 5 ( $p < 0.01$ ), suggesting that older age groups are less likely to believe that there is progress in neutralizing gender differences in comparison with younger groups.

I believe that we are making progress as a society in terms of neutralizing gender differences	1 i 5 ( $p < 0.01$ )	3 i 5 ( $p < 0.01$ )
--	----------------------	----------------------

**Source:** Author's analysis from SPSS

#### 4. DEMOGRAPHICS AND GENDER DISTRIBUTION OF DOCTORS IN CROATIA

The number of doctors in Croatia in 2023 is 16,399, of which 64% are female doctors (Table 4). The average age is 45 (Table 5). 14,742 or 89.9% of doctors are employed in the public sector, while 1,657 or 10.1% of doctors are employed in the private sector. The number of doctors by type of institution: in clinical hospital, centers is 4,117, general hospitals 3,339, health centers 2,289, private practice - surgeries 1,529, clinical hospitals 1,079, polyclinics 748, special hospitals 721, county institutes for emergency medicine 714, county public health institutes 519, clinics 473, health care institutions 174, spas 13. The number of specialists is 10,865, of which 61% are women, and the number of residents is 3,333, of which 68% are women. Women in medicine dominate and are more inclined to lifelong education, and there are more women PhDs in the field of biomedicine and healthcare. In 2024, there were 56%, i.e. 530 female doctors, and 44%, i.e. 422 doctors of medicine, in the field of biomedicine and healthcare. Female PhDs and assistants are numerous, while 53% of 186 are male assistant professors and 47% of 164 female assistant professors, and we conclude that they stay longer at lower scientific levels because they devote themselves to other life roles during that period of life. There are more men than extraordinary, full-time professors, full-time professors in permanent selection and academics. Currently, 2 women and 15 men in the class for medical sciences are regular members, while there are 8 men and 3 women in associate status.

**Table 4.** Presentation of the gender structure of doctors of medicine by age

	2019		2020		2021		2022		2023	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
<b>In total</b>	9 689	5 629	9 779	5 638	9 957	5 750	10 092	5 771	10 479	5 895
<b>Doctors of medicine</b>	1 589	682	1 528	637	1 495	624	1 392	599	1749	823
<b>Resident</b>	2 047	958	2 058	987	2 076	981	2 199	1 058	2117	1006
<b>Specialists</b>	5 976	3 934	5 975	3 919	6 159	4 051	6 284	4 007	6 515	4 164

**Source:** The author's analysis according to data from the [Croatian Institute of Public Health \(n.d.\)](#)

**Table 5.** Ratio of representation of female doctors by age

Year of age	% of women	Year of age	% of women
<b>up to 30</b>	65 %	<b>50-54</b>	68 %
<b>30-34</b>	66%	<b>54-59</b>	66 %
<b>35-39</b>	67 %	<b>60-64</b>	57 %
<b>40-44</b>	66 %	<b>65+</b>	54 %
<b>45-49</b>	63 %		

**Source:** Author's analysis based on data from the [Croatian Medical Chamber \(2024\)](#)

#### 5. GENDER DISTRIBUTION AND EMPLOYMENT TRENDS IN THE CROATIAN HOSPITAL SYSTEM

The hospital system records an increase in the number of employees. The hospital system is dominated by women doctors: in clinical hospital centers there are about 51%-58% women, in clinics about 63-68%, the exception is the Lovran Orthopedic Clinic 29% women and in clinical hospitals about 53%-57% (Tables 6, 7 and 8). Hospitals where there are more male doctors are: Lovran Orthopedic Clinic, Ogulin General Hospital, Virovitica General Hospital, OiR Hospital "Prim.dr.Martin Horvat" Rovinj, Special Orthopedic Hospital, Biograd, which also results from the ratio of representation of female specialists by branch medicine. General hospitals, a total of 22 of them, all record an increase in the number of employees, and the ratio of representation of female doctors is around 51% - 65%, Pula General Hospital has as many as 66% female doctors



(Table 9). Special hospitals dominated by women in the largest proportion are Lipik Special Hospital 83% and Lopača Hospital 80% female doctors (Table 10), while Bizovačke Toplice Spa has 100% female doctors (Table 11). Likewise, the number of women in specialization dominates.

**Table 6.** Analysis of the number of doctors in KBCs (year 2024)

	Total number of employees	Number of doctors	Number of female doctors	Share of female doctors	Share of female residents	Average age
KBC Zagreb	5 858	1 204	699	58 %	57 %	43
KBC *Sestra Milosrdnice*	3 910	777	443	57 %	56 %	43
KBC Rijeka	3 459	658	401	61 %	56 %	42
KBC Split	3 897	892	500	56 %	51 %	43
KBC Osijek	2 861	592	350	59 %	58 %	43

Source: Author's analysis according to data from Fina (n.d.) and Croatian Medical Chamber (2024)

**Table 7.** Analysis of the number of doctors in clinics (year 2024)

	Total number of employees	Number of doctors	Number of female doctors	Share of female doctors	Share of female residents	Average age
Clinic for Children's Diseases ZG	753	132	90	68 %	67 %	45
Clinic for Infectious Diseases "Dr. Fran Mihaljević" ZG	745	115	73	63 %	59 %	44
Orthopedics Clinic Lovran	150	34	10	29 %	30 %	46
Vrapče Psychiatry Clinic, ZG	687	79	50	63 %	62 %	46

Source: Author's analysis according to data from Fina (n.d.) and Croatian Medical Chamber (2024)

**Table 8.** Analysis of the number of doctors in clinical hospitals (year 2024)

	Total number of employees	Number of doctors	Number of female doctors	Share of female doctors	Share of female residents	Average age
Clinical hospital "Dubrava" ZG	2208	485	257	53 %	49 %	42
Clinical hospital "Merkur" ZG	1264	278	147	53 %	50 %	43
Clinical hospital "Sveti Duh" ZG	1617	318	182	57 %	56 %	42

Source: Author's analysis according to data from Fina (n.d.) and Croatian Medical Chamber (2024)

**Table 9.** Analysis of the number of doctors in general hospitals (year 2024)

	Total number of employees	Number of doctors	Number of female doctors	Share of female doctors	Share of female residents	Average age
Hospital "Dr. Ivo Pedišić" Sisak	819	197	128	65 %	59 %	44
Hospital "Dr. Anđelko Višić" Bjelovar	811	143	87	62 %	61 %	42
Čakovec Hospital	928	194	109	56 %	55 %	41
Dubrovnik Hospital	970	184	98	53 %	46 %	45
Gospić Hospital	246	40	23	58 %	56 %	50
Karlovac Hospital	964	180	109	61 %	61 %	43
Veteran Hospital "Hrvatski Ponos" Knin	284	40	23	63 %	58 %	51
Hospital "Dr. Tomislav Bardek" Koprivnica	839	163	90	57 %	55 %	43
Našice Hospital	454	74	42	65 %	57 %	44

Nova Gradiška Hospital	429	65	34	54 %	52 %	44
Ogulin Hospital	319	41	18	46 %	45 %	53
Pakrac Hospital	297					
Požega Hospital	603	117	56	51 %	48 %	45
Pula Hospital	1322	280	151	66 %	65 %	45
Hospital "Dr. Josip Benčević" Slavonski Brod	1188	274	162	59 %	59 %	43
Šibenik Hospital	1048	228	125	62 %	55 %	45
Varaždin Hospital	1860	300	171	61 %	57 %	41
Virovitica Hospital	1068	104	46	47 %	44 %	41
Vinkovci Hospital	701	164	93	62 %	57 %	45
Vukovar Hospital	709	136	75	57 %	55 %	43
Zabok Hospital	551	157	74	56 %	47 %	42 %
Zadar Hospital	1271	267	142	58 %	53 %	43

Source: Author's analysis according to data from Fina (n.d.) and Croatian Medical Chamber (2024)

**Table 10.** Analysis of the number of doctors in special hospitals

	Total number of employees	Number of doctors	Number of female doctors	Share of female doctors	Share of female residents	Average age
Biokovka	175	6	3	50 %	no residents	54
Lopača Hospital	86	5	4	80 %	no residents	54
OiR Hospital "Prim. dr. Martin Horvat" Rovinj	109	11	3	27 %	no residents	52
Daruvar spa	233	7	4	57 %	75 %	42
Srebrnjak Children's Hospital	222	51	39	75 %	70 %	47
Children's Psychiatric Hospital	87	19	14	74 %	69 %	54
Naphthalan	136	13	9	69 %	54 %	47
Dr. Ivan Barbot Popovača Neuropsychiatric Hospital	456	64	45	69 %	72 %	46
Psychiatric Hospital Rab	247	25	16	64 %	67 %	45
Psychiatric Hospital Ugljan	266	18	12	67 %	60 %	49
Special hospital Duga resa	159	17	13	76 %	67 %	47
Specijalna bolnica Krapinske Toplice	747	59	40	64 %	58 %	44
Lipik Special Hospital	194	12	10	83 %	78 %	48
Stubičke Toplice Special Hospital	156	15	8	53 %	45 %	48
Special Hospital Sveti Rafael Strmac	99	7	6	76 %	76 %	47
Varaždinske Toplice Special Hospital	590	39	30	77 %	74 %	41
Special hospital for chronic childhood diseases, Gornja Bistra	99	7	5	71 %	33 %	39
Kalos Special Hospital for Medical Rehabilitation	137	9	7	78 %	100 %	43
Special Hospital for Orthopedics, Biograd	212	31	11	35 %	39 %	47
Special Hospital for Lung Diseases, Rockefeller	158	25	18	72 %	74 %	42
Special hospital for the protection of children with neurodevelopmental and motor disabilities	206	13	10	77 %	no residents	57
Thalassotherapie – Crikvenica special hospital for medical rehabilitation of the Primorje-Gorski Kotar County	165	16	9	53 %	50%	50
Thalassotherapie Special hospital for medical rehabilitation of heart, lung and rheumatism	246	43	28	65 %	67 %	46

Source: Author's analysis according to data from Fina (n.d.) and Croatian Medical Chamber (2024)

**Table 11.** Analysis of the number of doctors in spas

	Total number of employees	Number of doctors	Number of female doctors	Share of female doctors	Share of female residents	Average age
Bizovačke Toplice spa	45	2	2	100 %	no residents	65
Spa Topusko	65	6	4	67 %	50 %	49
Veli Lošinj spa	44	4	3	75 %	no residents	49

**Source:** Author's analysis according to data from Fina (n.d.) and Croatian Medical Chamber (2024)

## 6. WOMEN IN MANAGEMENT IN THE HOSPITAL SYSTEM

Currently, there are 2 female clinic directors: Clinic for Infectious Diseases \*Dr. Fran Mihaljević\* and the Vrapče Psychiatry Clinic, while the directors of 5 KBC, 3 clinical hospitals and 5 clinics are men, a total of 11 directors, 8 deputy directors and 5 deputy directors, 18 assistant directors and 31 assistant directors. Of the 22 general hospitals, 6 are female directors in: General Hospital Gospić, General Hospital Pakrac, General Hospital "Dr Anđelko Višić" Bjelovar, General Hospital Karlovac, General Hospital Pula, General and Veterans Hospital "Hrvatski ponos" Knin. General hospitals in Karlovac and Pakrac have all women in management positions: director, deputy director and assistant director. In 22 general hospitals, there are 40 female assistants and 18 assistant directors, where predominantly women are assistants for nursing, finance and legal affairs, while men are more often assistants for quality. In 23 special hospitals, there are 13 directors and 10 directors, along with 10 deputies and 10 deputies and 30 female assistants and 19 assistant directors. In a total of 3 spas, there is one female director, a total of 2 deputy and 3 assistant directors. In 11 private hospitals, there are 9 directors and 2 directors (Table 12).

**Table 12.** Presentation of gender structure in management positions in hospitals

	Principal Deputy		Principal Assistant		Principals	
	Female	Male	Female	Male	Female	Male
5 KBC	0	5	1	4	12	7
3 Clinical hospitals	0	3	1	2	8	5
5 Clinic	2	3	3	2	11	6
22 General hospitals	6	16	8	14	40	18
23 Special hospitals	10	13	10	10	30	19
11 Private hospital specialties	2	9	0	0	0	0
3 Spas	1	2	2	0	3	0
2 Private spas	2	0	0	0	0	0

**Source:** Analysis by the author (January, 2024)

Doctors join together in the medical chamber as the main professional association and elect their representatives at the county level. Representatives of the medical chamber make up 63% of 18 commissioners and 14% of 3 female commissioners in addition to the main male president and deputy president of the chamber (Table 13).

**Table 13.** Presentation of the gender structure of commissioners and representatives in the Croatian Medical Chamber

	Croatia medical chamber	
	Male	Female
The main president of the chamber	1	
Chamber deputy	1	
County commissions		
In total	18	3

**Source:** Analysis by the author (January, 2024)



## 7. WOMEN ENTREPRENEURS IN MEDICINE

Women's entrepreneurship refers to business activities initiated and led by women. Entrepreneurship provides women with the opportunity for economic independence and personal development, while the inclusion of women in entrepreneurship brings different perspectives and experiences, creating new jobs and innovations. Women entrepreneurs in medicine face challenges such as raising capital, gender bias, and balancing work and personal life. When entrepreneurship in medicine is analyzed in 2022, a total of 41% of women, 50% of men and 9% of mixed registrations are registered as responsible persons in the register of Fina (Table 14). When the same entities are analyzed according to the actual owner in the medical practice and hospital business, 16% of business entities have no registered owner, 30% are women, 40% are men and 13% have mixed ownership (Table 15). It is clear that the owners and responsible persons of business entities are dominated by men, only in the field of general medical practice are women predominant. Supporting women's entrepreneurship is not only a question of equality, but also crucial for overall economic and social development. Encouraging female entrepreneurs in medicine has long-term positive effects by contributing to the development of innovative solutions and better health services.

**Table 14.** Entrepreneurs in medical activities, division by responsible person registered in the Fina register (2022)

Responsible person (registered in the fina register)	Women	Men	Mixed
Activity of specialist medical practice	341	420	72
Activity of dental practice	194	244	55
Activity of general medical practice	60	35	7
Activity of hospitals	1	7	1

Source: Author's analysis according to data from Fina (n.d.)

**Table 15.** Entrepreneurs in medical activities, division by actual owner (2022)

Beneficial owner	No registered owner	Women	Men	Mixed
Activity of specialist medical practice	62	268	356	116
Activity of dental practice	113	136	191	65
Activity of general medical practice	55	24	18	5
Activity of hospitals	0	0	6	3

Source: Author's analysis according to data from Fina (n.d.)

Despite the large number, achievements in career development and scientific and professional titles of women in medicine, the fact is that they earn less than their male colleagues (Table 16). The reason for this is that men dominate management positions in healthcare institutions and there are more of them in the scientific titles of assistant professor, associate and full professor, as well as academics.

**Table 16.** Average monthly net salary of employees in health care and social welfare activities and salary ratios by gender (in kuna, HRK)

	In total net salary	Women net salary	Men net salary	Share of women's salaries in men's salaries
2004.	4 762 HRK	4 494 HRK	5 600 HRK	The share of women's wages in men's wages 80,3
2015.	6 125 HRK	5 127 HRK	7 593 HRK	The share of women's wages in men's wages 75,3
2020.	7 876 HRK	7 354 HRK	9 524 HRK	The share of women's wages in men's wages 77,2

Source: Author's analysis according to data from State Statistical Office of the Republic of Croatia (2024)

## 8. CONCLUSION

Increasing awareness of the importance of gender equality plays a key role in the transformation of social norms. Women in medicine have great potential for growth and change in leadership aspects. Increased participation of women in management positions means strengthening the gender perspective. Although the number of women in medicine dominates, gender bias is present, which is confirmed by this research. Women lag behind in terms of salaries, career advancement and recognition from the environment. Supporting women in entrepreneurship in medicine is a reflection of women's empowerment and at the same time contributes to better health care. The fight against bias is important for further progress, therefore supporting women in medicine through education, mentoring and equal opportunities is key. A medical system in which female doctors are valued, rewarded and recognized in the same way as their male counterparts reflects the diversity and richness of talent.

## Acknowledgment

The research was carried out as part of the project \*From real to virtual migrations\* - VRtualM is funded by the European Union – NextGenerationEU. The views and opinions expressed are solely those of the author and do not necessarily reflect the official views of the European Union or the European Commission. Neither the European Union nor the European Commission can be held responsible for them.

## References

- Akkaya, B., & Üstgörül, S. (2020). Leadership styles and female managers in perspective of agile leadership, in: *Agile Business Leadership Methods for Industry 4.0*, Emerald Publishing Limited, Leeds (pp. 121-137).
- Bain, O., & Cummings, W. (2000). Academe's glass ceiling: Societal, professional-organizational, and institutional barriers to the career advancement of academic women. *Comparative Education Review* 44 (4), (pp. 493–514).
- Bashir, B., Khan, M., & Mir, F. A. (2021). Technological awareness and glass ceiling among women professionals. *International Journal of Indian Culture and Business Management* 23(3), (pp. 364-382).
- Baumgartner, M. S., & Schneider, D. E. (2010). Perceptions of Women in Management: A Thematic Analysis of Razing the Glass Ceiling, *Journal of Career Development*, 37(2), (pp. 559-576).
- Bektur, Ç., & Arzova, S. B. (2022). The effect of women managers in the board of directors of companies on the integrated reporting: example of Istanbul Stock Exchange (ISE) Sustainability Index, *Journal of Sustainable Finance & Investment* 12(2), (pp. 638-654).
- Berry, P. (2010). Women in The World of Corporate Business: Looking At The Glass Ceiling, companies on the integrated reporting: example of Istanbul Stock Exchange (ISE). *Contemporary Issues In Education Research* 3(2), (pp. 1-10).
- Croatian Institute of Public Health. (n.d.). Croatian Health and Statistical Yearbook by year. <https://www.hzjz.hr/hrvatski-zdravstveno-statisticki-ljetopis/>
- Croatian Medical Chamber. (2024). Medical Atlas. <https://www.hlk.hr/digitalni-atlas-hrvatskog-lijecnistva.aspx>
- Directive 2022/2381, Companies Act, [https://narodne-novine-nn.hr.translate.goog/clanci/sluzbeni/2022\\_03\\_34\\_398.html?\\_x\\_tr\\_sl=hr&\\_x\\_tr\\_tl=en&\\_x\\_tr\\_hl=en&\\_x\\_tr\\_pto=sc](https://narodne-novine.nn.hr.translate.goog/clanci/sluzbeni/2022_03_34_398.html?_x_tr_sl=hr&_x_tr_tl=en&_x_tr_hl=en&_x_tr_pto=sc)
- Fina. (n.d.). <https://infobiz.fina.hr/>

- Friedman, S., & Laurison, D. (2020). *The Class Ceiling: Why it Pays to be Privileged*. Policy Press & Bristol University Press.
- Smith, P., Caputi, P., & Crittenden, N. (2012). A maze of metaphors around glass ceilings. *Gender in Management* 27 (7), (pp. 436-448).
- State Statistical Office of the Republic of Croatia. (2024). Women and men in Croatia. <https://ravnopravnost.gov.hr/istaknute-teme-12/zene-i-muskarci-statistika/3453>

