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Clustering the engagement of Brazilian nurses in political advocacy

Cluster do engajamento dos enfermeiros brasileiros na advocacia política

Agrupando el compromiso de los enfermeros brasileños en la incidencia política

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ABSTRACT

Objectives: to analyze the level of nurses' engagement in political advocacy by performing cluster analysis. **Methods:** observational study, with a quantitative approach. A total of 184 nurses working in primary, secondary, and tertiary care in a city in the south of Brazil completed the Policy Advocacy Engagement Scale. Data analysis consisted of descriptive statistics, cluster analysis, analysis of variance, and chi^2. The Institutional Review Board approved the study. **Results:** four differentiated clusters were found according to professional experience, level of healthcare complexity, and unit. The cluster analysis revealed that patient advocacy for community-based obtained the highest mean, indicating that political advocacy is effective in organizational environments and that professional qualification favors greater engagement in political advocacy. **Conclusions:** the results reveal that nurses play an active role in political advocacy, seeking to promote positive changes in health, especially those working in tertiary care, the nurse group that obtained the highest means.
Descriptors: Nurse; Health Policies; Work Engagement; Patient Advocacy; Health.

RESUMO

Objetivos: analisar o nível de engajamento dos enfermeiros na advocacia política por meio da análise de *cluster*. **Métodos**: estudo observacional, com abordagem quantitativa. Um total de 184 enfermeiros que atuam na atenção primária, secundária e terciária em uma cidade do sul do Brasil preencheram a Policy Advocacy Engagement Scale. A análise dos dados consistiu em estatística descritiva, análise de *cluster*, análise de variância e chi2. O Comitê de Ética em Pesquisa aprovou o estudo. **Resultados:** foram encontrados quatro *clusters* diferenciados de acordo com a experiência profissional, nível de complexidade assistencial e unidade. A análise de agrupamento revelou que a advocacia do paciente para a comunidade obteve a maior média, indicando que a advocacia política é efetiva em ambientes organizacionais e que a qualificação profissional favorece maior engajamento na advocacia política. **Conclusões**: os resultados revelam que os enfermeiros exercem um papel ativo na advocacia política, buscando promover mudanças positivas na saúde, principalmente os que atuam na atenção terciária, grupo de enfermeiros que obteve as maiores médias.
Descritores: Enfermeira; Políticas de Saúde; Engajamento no Trabalho; Defesa do Paciente; Saúde.

RESUMEN

Objetivos: analizar el nivel de compromiso de los enfermeros en la incidencia política a través del análisis de conglomerados. **Métodos:** estudio observacional con enfoque cuantitativo. Un total de 184 enfermeras que trabajan en atención primaria, secundaria y terciaria en una ciudad en el sur de Brasil completaron la Escala de Compromiso de Incidencia Política. El análisis de datos consistió en estadística descriptiva, análisis de conglomerados, análisis de varianza y chi2. El Comité de Ética en Investigación aprobó el estudio. **Resultados:** se encontraron cuatro conglomerados diferenciados según experiencia profesional, nivel de complejidad asistencial y unidad. El análisis de conglomerados reveló que la defensa de los pacientes por la comunidad tuvo el promedio más alto, lo que indica que la defensa política es efectiva en entornos organizacionales y que la calificación profesional favorece una mayor participación en la defensa política. **Conclusiones:** los resultados revelan que los enfermeros tienen un papel activo en la incidencia política, buscando promover cambios positivos en la salud, especialmente aquellos que actúan en el tercer nivel de atención, grupo de enfermeros que obtuvo los promedios más altos.
Descriptores: Enfermero; Políticas de Salud; Compromiso de Trabajo; Defensa del Paciente; Salud.

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INTRODUCTION

Political advocacy is characterized by interventions implemented by health workers to change ineffective policies in institutions, communities, and the government[1-2]. The difference between health advocacy and political advocacy lies in the fact that the first advocates on behalf of specific individuals, while the latter seeks global changes at the government or management level to improve the wellbeing of a considerable number of individuals[3].

Political activity refers to being part of groups, associations, and entities, and participating in activities to influence health policies and improve health care[4]. From this perspective, human behavior is guided by behavioral beliefs and, as a result, the sum of efforts and collective perceptions strengthens engagement in political advocacy, in addition to encouraging health professionals to engage in political advocacy if they perceive it to be effective to improve the population's health[5].

Committing to the advocacy of health-related rights and seeking to transform dysfunctional policies to promote the wellbeing of users is a moral duty of those who provide care and are committed to their work[1]. As members of a multi-professional health team, nurses should perceive the importance of defending users in situations in which harm can be avoided, a fact that encourages nurses to leave their comfort zone and enter the political sphere, expecting their actions to impact public policies, also providing examples to contribute to the defense of users' rights and interests[6].

Several factors encourage the ability of nurses to be politically active and influence the development of health policies; in particular, professionals need to plan collective activities that culminate in strengthening groups, producing and sharing relevant knowledge on political issues, and affecting health care and the nursing profession[7]. The political influence of nurses becomes apparent from their ability to impact health-related issues through their competencies and political knowledge, the exercise of power, advocacy, efficient communication, and collaboration with the remaining health team members[8].

Accordingly, the engagement of nurses in political advocacy is essential to implementing change with an integral, committed, ethical, political, and socially oriented-vision for human beings and society at large[9]. Furthermore, their actions can improve the quality of care, as well as benefit a large number of people by identifying health determinants and dimensions that contribute to political advocacy[3].

Studies refer to engagement in political advocacy at a global level, a fact not evidenced in South America, especially Brazil[10-11]. Thus, this study's relevance is justified by gaps in the scientific production addressing political advocacy in Brazil, especially the engagement of nurses in political advocacy[1,9].

OBJECTIVES

To analyze the level of nurses' engagement in political advocacy by performing a cluster analysis according to variables years of professional experience, level of complexity, and job position.

METHODS

Ethical aspects

All ethical guidelines were complied with, and the study was approved by the Research Ethics Committee of the Federal University of Rio Grande, Brazil.

Study Design, period, and place of study

This observational study with a quantitative approach addressed nurses working in primary, secondary, or tertiary care in a city in southern Brazil. The research was organized according to STROBE checklist: cross-sectional studies.

The primary author and three previously trained nursing students collected data. The nurses were invited to participate in the study in their workplace and received an envelope containing the questionnaire and two copies of a free and informed consent form to complete. The participants were also informed that they could withdraw any time they wished.

Setting

The validated Brazilian version of the Policy Advocacy Scale (PAES) was used. It is divided into seven factors that measure engagement among nurses regarding: patient rights, quality care, culturally competent care, preventive care, affordable care, mental health care, and community-based care.

Data were collected by applying the PAES among nurses working in the locations mentioned before. The questionnaires and informed consent forms were delivered from November 2017 to March 2018.

The city where the study was conducted has approximately 210,000 inhabitants and is a maritime transport hub, with a port that handles most of the Brazilian imports and exports. The city has also one federal and one private university, both with a large variety of programs, especially in the health field.

Regarding health, in accordance with the Brazilian Unified Health System, the Primary Health Care network in the city has 24 units Family Health Strategy (FHS), five Basic Health Units (BHU), two Mixed Units, and two 24 hour- services. As for secondary care services, the city has one Emergency Unit (UPA), one mobile emergency service (SAMU), and four Psychosocial Health Centers (CAPS).

In terms of tertiary care, the city has two general hospitals, one of which is a federal public hospital that is a regional reference of medium complexity, certified as a Teaching Hospital by the Ministry of Health, and exclusively serves the SUS. The second institution is a philanthropic hospital, also a teaching hospital that provides care to SUS patients and patients with health care plans/insurance, and private patients.

Population or sample; inclusion and exclusion criteria

A total of 184 nurses working in primary, secondary, and tertiary care in a city in the South of Rio Grande do Sul participated. The inclusion criteria were: being a professional nurse; formally hired by one of the facilities included; and being a permanent

worker in one of the services. The exclusion criterion was being absent during data collection due to vacation or leave of absence.

A non-probabilistic sampling method, a convenience sample, was used. Hence, the participants were selected according to their presence and availability at the place and time data were collected. Quality control and a minimum number of participants was established by a mathematical formula that determined the minimum sample size, i.e., 164 participants, with a 10% safety margin, considering three different contexts and potential losses.

Sampling was determined according to a mathematical formula to ensure a minimum of 95% confidence level[14]. Hence, a minimum sample size of 181 participants was obtained. Data were collected between October 2017 and March 2018.

Data Analysis and statistics

The Statistical Package for Social Sciences (SPSS) version 25.0 was used in data analysis. Differences were compared and assessed, and the same database was used to make corrections when necessary. Data analysis included descriptive statistics followed by cluster analysis. Analysis of variance and the Chi-squared test used to compare between clusters for numerical and categorical variables, respectively.

Cluster analysis is a multivariate classification technique intended to assign elements of a sample into groups so that elements belonging to the same group are homogeneous regarding the characteristics under analysis and elements from different groups are heterogeneous concerning the same characteristics[12-13].

Cluster analysis is about grouping a dataset so that data in a particular group (cluster) is more similar, in terms of specifying variables than data in other clusters. Cluster analysis approximates similar groups and distances them according to their respective differences. It allows characterizing and classifying the profile of a given population based on predictor variables selected by the method. Two-step cluster analysis is the method used in this study. It consists of a scalable algorithm designed to analyze large databases. It initially pre-clusters data, using the sequential clustering approach that generates sub-clusters, which are reorganized in the second step, where clusters are finally generated[14-15].

ANOVA is a method used to test the quality of three or more population means based on analysis of sample variances. Because the sample data were assigned into groups according to a characteristic (a factor)[16], ANOVA was used to compare numerical variables among clusters 1, 2, 3, and 4. The Chi-squared test was used to compare categorical variables. The Chi-squared test is a test of the hypothesis designed to find a dispersion value for two nominal categorical variables and assess the association between qualitative variables[17]. The observational study was guided by the STROBE tool.

RESULTS

Cluster analysis

The final sample was composed of 184 nurses; hence, it met the criterion established for the minimum sample size: 72 (39.1%) nurses worked in primary care, 67 (36.4%) worked with secondary care, and 45 (24.5%) worked with tertiary care. Most nurses were women, 160 (87.0%), while 24 (13.0%) were men. The sample was organized into four clusters, as presented in Figure 1.

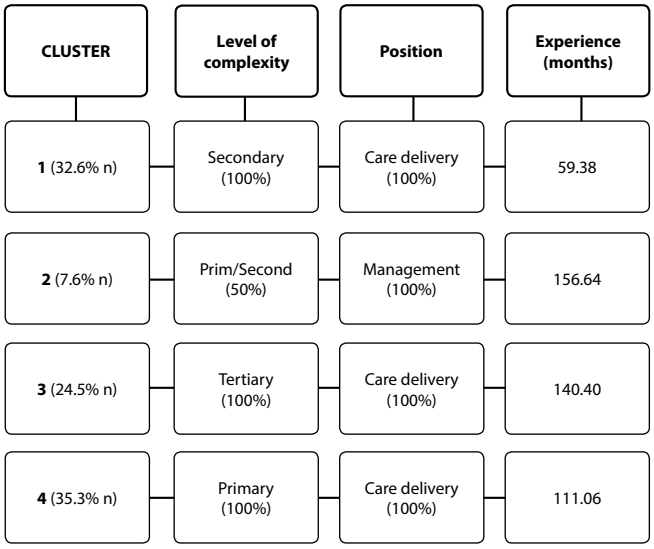

Figure 1 – Defined by likelihood ratio, concerning the engagement of nurses in political advocacy

Figure 1 shows that the two largest clusters represent similar proportions of the sample, with clusters 1 and 4 consisting of 60 (32.6%) and 65 (35.3%) nurses, respectively. Cluster 1 is characterized by nurses working in secondary care, with an estimated average of 59 months of professional experience, while cluster 4 is composed of nurses working in primary care with an average of 111 months of professional activity.

Clusters 2 and 3 are composed of a smaller number of nurses, however, representing different situations. Cluster 2 is composed of 14 (100%) nurse managers, seven (50%) of whom work in primary care, with 156 months of professional experience, on average, which is the highest mean in terms of professional experience.

Cluster 3 is composed of 45 (24.5%) nurses who provide tertiary care (100%), with 140 months of professional experience, on average.

The results of the variance analysis provide a potential explanation for the different associations between factors linked to the engagement of nurses in political advocacy, which are presented in Table 1. The comparisons between the categorical variables among the clusters are presented in Table 2.

The cluster analysis shows that cluster 2 obtained the highest mean age, followed by clusters 3, 4, and 1. Regarding professional experience, cluster 2 presented the highest mean. Cluster 3 was the one more intensively involved with political advocacy. Table 2 presents the comparison of categorical variables between the different clusters.

Data are expressed in N-total or N (%), according to the cluster. Differences were considered statistically significant when $p<0.05$ and analyzed using the Chi-squared test[14].

Statistically significant differences ($p<0.05$) were found between the clusters in all the variables selected, suggesting that the mean for each variable was different in each cluster, validating the clusters found. The results concerning the comparison of means show that the mean level of engagement in political advocacy is significantly different ($p<0.05$) between clusters 1(3.50), 3(4.04),

and 4(3.46). The mean obtained by Cluster 3 is higher than those obtained by clusters 1 and 4, while cluster 2 presents no significant differences compared to the remaining groups.

Table 3 presents the general means of each factor and the respective means in each cluster.

The means obtained in factors 3, 5, and 7 do not present significant statistical differences ($p > 0.05$). However, a significant difference was found in factors 1, 2, 4 and 6 ($p<0.05$), which present lower means, indicating nurses are less likely to engage in political advocacy. At the same time, the means obtained in factors 7, 5 and 3 were higher, indicating nurses are more likely to engage in political advocacy. Furthermore, factor 7 presented the highest mean, suggesting a higher tendency of engaging in political advocacy compared to the other factors. Cluster 3 obtained the highest general mean, and the highest scores were obtained by factors 1 (3.60), 2 (4.04), 4 (4.28) and 6 (3.70).

Table 1 – Behavior of the 4 clusters according to the variables selected for comparison

	Cluster 1	Cluster 2	Cluster 3	Cluster 4
Participants	60 ± 32.6 a	14 ± 7.6 b	45 ±24.5 c	65 ±35.3 d
Average age	34 ± 8.14 a	41 ± 9.1b	40 ±7.4 c	36 ± 8.9 a, b, c
Experience	59 ±61.3 a	157 ± 111.6 a, b, d	140 ±89.5 b, c	111 ±100.3 b, d
Mean of political Advocacy Among Clusters	3.5 ± 0.73 a	3.51 ± 0.59 a, b, c	4.04 ±0.77 b	3.46 ±0.54 c

Table 2 – Comparison of categorical variables among different clusters

		Total of valid answers	Cluster 1	Cluster 2	Cluster 3	Cluster 4	*p*
Education							
Bachelor's degree		74	25 (41.7%)	5 (35.7%)	10 (22.2%)	34 (52.3%)	0.000
Specialization		28	3 (5.0%)	2 (14.3%)	19 (42.2%)	4 (6.2%)	0.000
Residency		17	1 (1.7%)	3 (21.4%)	4 (8.9%)	9 (13.8%)	0.000
Master's degree		16	1 (1.7%)	2 (14.3%)	7 (15.6%)	6 (9.2%)	0.000
Doctoral degree		49	30 (50%)	2 (14.3%)	5 (11.1%)	12 (18.5%)	0.000
Level of care							
Primary care		72	--	7 (50%)	--	65 (100%)	0.000
Secondary care		67	60 (100%)	7 (50%)	--	--	0.000
Tertiary care		5	--	--	45 (100%)	--	0.000
Field							
Care delivery		170	60 (100%)	--	45 (100%)	65 (100%)	0.000
Administrative		14	--	14 (100%)	--	--	0.000
Structural characterization of the work environment							
Review	Yes	108	39 (65%)	--	25 (55.6%)	35 (60.3%)	0.720
Board	No	76	21 (35%)	--	20 (44.4%)	30 (39.7%)	
Continuing	Yes	146	53 (88.3%)	12 (92.3%)	33 (73.3%)	48 (78.7%)	0.158
Education	No	33	7 (11.7%)	1 (7.7%)	12 (26.7%)	13 (21.3%)	
Staff meeting	Yes	98	--	12 (85.7%)	38 (84.4%)	48 (76.2%)	0.633
	No	24	--	2 (14.3%)	7 (15.6%)	15 (23.8%)	
Institutional Dialogue	Yes	150	46 (76.7%)	13 (92.9%)	42 (93.3%)	49 (77.8%)	0.070
	No	32	14 (23.3%)	1 (7.1%)	3 (6.7%)	14 (22.2%)	
Management open dialogue	Yes	170	56 (93.3%)	14 (100%)	44 (97.8%)	56 (88.9%)	0.215
	No	12	4 (6.7%)	--	1 (2.2%)	7 (11.1%)	
Multiprof staff open dialogue	Yes	159	53 (88.3%)	11 (78.6%)	42(93.3%)	53(84.1%)	0.379
	No	23	7 (11.7%)	3 (21.4%)	3 (6.7%)	10 (15.9%)	
Nursing staff open Dialogue	Yes	174	57 (95%)	14 (100%)	43 (95.6%)	60 (93.8%)	0.804
	No	9	3 (5%)	--	2 (4.4%)	4 (6.3%)	

Means (confidence interval).

Table 3 – Comparison of the factors' means according to each cluster

	Cluster	n	Mean	Factor total mean	*p* value
Factor 1	1 secondary care	60(32.6%)	2.88		
(patient advocacy)	2 managers/primary care	14(7.6%)	2.68	2.98	0.000
	3 tertiary care	45(24.5%)	3.60		
	4 primary care	65(35.3%)	2.71		
Factor 2	1	60	3.51		
(quality care advocacy)	2	14	3.94	3.68	0.009
	3	45	4.04		
	4	65	3.54		
Factor 3	1	60	3.81		
(advocacy for culturally competent care)	2	14	3.80	3.94	0.13
	3	45	4.35		
	4	65	3.80		
Factor 4	1	60	3.07		
(advocacy for preventive care)	2	14	3.25	3.46	0.000
	3	45	4.28		
	4	65	3.30		
Factor 5	1	60	4.02		
(advocacy for accessible care)	2	14	3.64	3.96	0.328
	3	45	4.16		
	4	65	3.85		
Factor 6	1	60	3.22		
(advocacy for mental health care)	2	14	3.32	3.27	0.036
	3	45	3.70		
	4	65	3.01		
Factor 7	1	60	3.99		
(advocacy for family and community care)	2	14	3.94	4.03	0.581
	3	45	4.17		
	4	65	3.98		

DISCUSSION

Different studies highlight the engagement of nurses as a way to expand political advocacy regarding health issues[5,17-18] and also highlight institutional support and the support provided by other members of the multi-professional and nursing teams, promoting engagement in political advocacy by showing greater commitment to care delivery[3]. It is noteworthy that nurses less experienced are often more likely to engage in political advocacy, which reinforces the need to support individuals to develop their effective and coherent ability to engage in political advocacy as an essential component in the practice of nurses from the time of graduation, especially at higher levels such as master's and doctoral programs[18].

Regarding the clusters that emerged in this study, almost all nurses in cluster 1 work with secondary care, are younger and less experienced than those in the remaining groups. This group, however, concentrates the highest number of nurses with a doctoral degree; most were female nurses with a doctoral degree. Thus, this study shows that the involvement of nurses in political advocacy is greater the higher their educational levels, while the clusters analysis shows that age is not a very relevant variable.

Corroborating this study's findings, a study indicates that nurses with master's degrees or higher levels of education are more politically active than those with lower levels of training[18], also recognizing that professional nursing organizations give greater freedom to more qualified professionals to influence the construction of institutional policies[1,4]. This translates into a need for nurses to engage in health policies since the beginning of their training, to influence health and public policies[8]. Therefore, building effective and coherent ways to act in political advocacy is considered an essential component of nursing education, at the undergraduate, master's and doctoral levels[18].

Thus, involvement in political processes to promote sound and effective policies in health care practices is a direct extension of how nurses can defend the interests of the health system's users. Political advocacy in nursing can benefit users, communities, and professionals based on nurses' leadership skills and active involvement[19].

Cluster 2 presents the highest average age and the longest professional careers, divided between primary and secondary care nurses, with a higher number of professionals with a college degree than other academic degrees. Nurses managers have a higher level of commitment to political advocacy, mainly because they work in the administration of health services, which favors a broad and global view of health needs, without being limited to one or another user specifically, as often happens among nurses who are directly involved in providing health care[20].

Working in the administration of health services expands the ability of nurses in leadership positions to influence their staff in order to achieve objectives shared by the group to meet the population's health needs[20]. Additionally, nurse managers who are in key positions should be a model, qualifying and motivating nurses to become involved with health policies, by establishing healthy and ethical work environments, organizing actions focused on health policies, providing training and continuing education in order to facilitate the understanding of workers with regard to their skills in the development of health policies

and strategies influencing political decision-making. With this in mind, the International Council of Nurses proposes that nurses significantly contribute to develop efficacious health policies based on their knowledge and experience[8].

It is worth noting that, through leadership, nurses can reconcile organizational objectives with the objectives of the nursing staff in order to improve professional practice and the quality of care delivery, which is an element that facilitates the work of health teams[21]. Another important facilitator in cluster 2 is related to these individuals' professional experience, the longest experience among the four clusters, which consequently means greater experience with political performance, knowledge of health systems and research, and involvement in political issues, possession of leadership skills, qualification, having structural support and greater knowledge, availability of resources, and a positive image of nursing, as reinforced by an international study[8].

Other characteristics differ among clusters. For example, all participants in cluster 3 are nurses who provide tertiary care and presented the highest mean among all the clusters and the second-highest mean concerning professional experience, reinforcing these professionals are highly likely to engage in political advocacy, especially in factors related to the advocacy for patients rights, quality of care, preventive care, and mental health care, which obtained the highest means in this cluster.

One Brazilian study highlights the constant transformations and advancements in health practices, especially in the hospital sphere, which requires workers, especially nurses, to have specialized management knowledge. Thus, universities are supposed to provide workers with theoretical and practical knowledge to support human aspects in the quality of nursing care[21].

Nurses perform tasks that include activities from directly providing care to patients to management tasks, so they have greater autonomy to act and impact the organizations' decision-making[22]. Thus, nurses are the link connecting the team and, therefore, are able to work well with other professionals and plan actions that permeate care, as recommended by the legal material governing professional practice. Additionally, by promoting teamwork, nurses enable the group to better deal with conflicts and challenges and manage activities in an environment of trust and satisfaction[21].

Cluster 4 was composed of nurse practitioners, who differ in the fact that they work in primary care, a health setting known by the vast number of opportunities to establish positive exchanges between nurses and patients, family and the community. That is, there is the unique opportunity to promote health during interactions[22-23]. A study indicated that changes in the communities' health demands and the need for changes in health services lead to exponential growth in primary health care nursing both in Australia and in other countries[24]. Additionally, quality of care considerably increases interest in identifying the factors that hinder concrete health action[24-25].

Another study addressing the contribution of nurses in advocacy and health policies noted that nursing leaders should provide users with the information necessary for their treatment, encourage their empowerment, respect their beliefs and values and, above all, be a voice to defend them when necessary[26].

Therefore, nurses should play an essential role in the public aspect of political decision-making and encourage staff members to become involved in political advocacy[8]. In addition, developing interpersonal influence helps nurses provide health care and promotes greater proximity to the care provided to the population as a resource for political advocacy[19].

Thus, as members of health teams, nurses need to be qualified to deal with diplomatic, humanitarian, and political issues. Thus, academic curricula need to address aspects related to national and international policies concerning health diplomacy, and training and qualifying these workers to be political agents in the context of world health[27].

Study limitations

This study was limited by the fact that there are no other Brazilian studies addressing the engagement of nurses in political advocacy, hindering discussions and comparisons with other national contexts.

Contributions to the Nursing, Health or Public Policy fields

This study is very relevant, as it allows nurses and managers to measure the level of engagement of these professionals in health services. The results indicate the direction for nurses to exercise political advocacy and promote improvements in health. In this sense, the involvement of these professionals in advocacy issues is essential for the growth of the profession and improvements in the health field as a whole. This study shows the importance of nurses as health advocates.

CONCLUSIONS

This study presents a cluster analysis of data concerning the engagement of Brazilian nurses in political advocacy. The results show that nurses have appropriated their technical and scientific knowledge in planning actions, connecting the remaining health workers and patients, mediating the supply of health care and the demands faced at work.

Cluster 3, which includes nurses working in tertiary care, stood out as it obtained the highest mean in the factors related to the advocacy of patient rights, quality care, preventive care, and mental health care. In addition, nurses with doctoral degrees are more likely to engage in political advocacy than nurses with other academic degrees.

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