

# Religious Identity Discrimination in the Physician Workforce: Insights from Two National Studies of Muslim Clinicians in the US



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**BACKGROUND:** Discrimination negatively impacts physician career trajectories and well-being.

**OBJECTIVE:** Quantify perceived religious discrimination among US Muslim physicians and compare trends over time.

**DESIGN/PARTICIPANTS/MAIN MEASURES:** Two national surveys tabulated discrimination. The 2013 survey involved a mailed questionnaire to a random sample of 746 Islamic Medical Association of North America (IMANA) members, while the 2021 survey was administered online to subscribers of IMANA, American Muslim Health Professionals, and the US Muslim Physician network. Eligible participants had to be practicing US Muslim physicians, and English-proficient (the 2021 sample was further restricted to physicians in academic medicine). Questionnaires assessed experiences of religious discrimination and accommodation.

**KEY RESULTS:** In 2013, the 255 participants had a mean age of 52 years, were mostly male (70%), Sunni (91%), South Asian (70%), and adult immigrants (65%). In 2021, the 264 participants had a mean age of 39.5 years, were mostly male (65%) and Sunni (75%). In contrast to 2013, the majority were born in the USA (59%;  $p < 0.01$ ), and respondents were more diverse with 33% South Asians, 22% Arabs, and 16% African Americans. Greater proportions of the 2021 sample reported facing religious discrimination frequently in their career (24 to 53%;  $p < 0.01$ ), experiencing job turnover (7 to 32%;  $p < 0.01$ ), and having patients refuse their care (9 to 33%;  $p < 0.01$ ). A higher proportion of South Asians, Arabs, and participants under the age of 40 reported discrimination and job turnover in 2021 when compared to 2013. Higher proportions of South Asians and Whites reported being passed over for professional advancement and having patients refuse their care in 2021 relative to 2013.

**CONCLUSIONS:** Many American Muslim clinicians encounter religious discrimination at the workplace, and these experiences appear to be on the rise. Healthcare workforce diversity, inclusion, and equity programming should include a focus on accommodating the religious identities of physicians.

**KEY WORDS:** diversity; inclusion; Islam; prejudice; bias.

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## INTRODUCTION

Workplace discrimination confronted by physicians is associated with job turnover, career dissatisfaction, and contemplation of career change.<sup>1</sup> Beyond these consequences, discriminatory actions, including sexual harassment, microaggressions, and bullying, lead to physician burnout<sup>2,3</sup> and decreased well-being.<sup>4</sup> Additionally, a growing body of literature suggests discrimination has downstream deleterious effects upon patient care<sup>4</sup> and health equity.<sup>5,6</sup> Formative research that explores discriminatory experiences and delineates how they impact physicians is necessary to design interventions that improve workplace culture and climate.<sup>6-9</sup>

Recent research on workplace discrimination due to physician gender, sexuality, and racial/ethnic identity has fostered targeted diversity, equity, and inclusion (DEI) programming.<sup>8,10-12</sup> Gender discrimination among physicians is linked to decreased job satisfaction,<sup>4</sup> well-being,<sup>4</sup> and burnout.<sup>2</sup> One study of 212 integrated vascular residents demonstrated that 80% of women experienced some form of gender discrimination compared to 14% of men.<sup>13</sup> Another study of 5931 cardiologists reported that gender was the most frequent identity feature attracting workplace discrimination. There was a high level of professional dissatisfaction among the 44% of physicians who had experienced gender-based harassment and/or discrimination.<sup>4</sup> These data have fueled programs to address gender bias in the workforce.<sup>7,10,12</sup>

Racial and ethnic discrimination has also been extensively studied and proven to negatively impact the workplace. Nunez-Smith and colleagues found that more than one-quarter of physicians of color reported at least one job turnover in their careers due to workplace discrimination.<sup>14</sup> A systematic review reported that Black physicians consistently encountered discrimination at higher rates than any other group.<sup>15</sup> They also faced greater scrutiny, were held to higher standards than others, and faced microaggressions, including

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having their competence questioned.<sup>15</sup> A recent qualitative study of general internists' experiences with discriminatory behavior from patients found racial and ethnic discrimination to be prevalent and described discrimination led to feeling excluded, struggling with mental health and confidence, and compelled physicians to leave the practice.<sup>16</sup> There is ample evidence that workplace discrimination towards physicians of color correlates with higher levels of burnout and feelings of isolation.<sup>15,16</sup>

Despite national efforts to increase workforce diversity, physicians from minority backgrounds remain under-represented and face obstacles in negotiating their professional and personal identities.<sup>17</sup> Indeed, they are often tasked with being cultural ambassadors and thus expected to fix problems related to DEI, shoulder additional care for minority patients, and serve as experts on racial/ethnic issues.<sup>17</sup> These added duties may further exacerbate the stresses they face.

Against this backdrop, the religious identities of clinicians are overlooked and experiences of religious discrimination are understudied. Muslim Americans offer an important lens through which to fill in these gaps. The sociopolitical climate of anti-Muslim bias and discrimination affects this community, including physician members.<sup>18</sup> In recent decades, anti-Muslim hate crimes have become more common,<sup>19,20</sup> media narratives have portrayed Muslims in a negative manner, and political conversations have placed the US Muslim community under greater scrutiny.<sup>18</sup> Muslim physicians comprise more than 5% of the physician workforce<sup>21</sup> and are racially and ethnically diverse. This study aims to quantify and identify time trends in this group's experiences with religious discrimination at work.

## METHODS

This study draws from two surveys of US Muslim physicians, and reports on items pertaining to religious discrimination and accommodation that were common to both instruments.

### Participant Recruitment

Since national databases of physicians do not collect religious affiliation, we obtained samples of Muslim physicians through national Muslim physician organizations. In 2013, we drew a random sample from the Islamic Medical Association of North America (IMANA), the largest Muslim physician organization in the country. In 2021, our sample was recruited from American Muslim Health Professionals, and the US Muslim Physician network, as well as IMANA. Inclusion criteria for both surveys included being a practicing physician in the USA, Muslim, and English proficient. The 2021 survey required participants to work, or have previously worked within the past 20 years, at a university-affiliated or academic medical center in the USA. This criterion was added to explore how recent DEI efforts within academic medicine influence experiences of discrimination. The studies were approved by the

Institutional Review Boards at the University of Chicago (2013) and the Medical College of Wisconsin (2021).

### Data Collection and Survey Instrument

In 2013, survey questionnaires were mailed to 746 IMANA members selected at random from the membership roster ( $n=1968$  members). Up to three mailers were sent with escalating incentives from a \$2 bill to the promise of a book and a raffle entry for an iPad. For greater details, the reader is directed elsewhere.<sup>22</sup> In 2021, a survey was administered online via listservs to subscribers of IMANA ( $n=7,500$ ), AMHP ( $n=2,147$ ), and the US Muslim Physicians network ( $n=257$ ). Organizational representatives emailed their constituents independently, sending up to three e-mail invitations at 2-week intervals with advertisements noting a book raffle incentive. Non-working email addresses and returned emails were not tracked hence a precise estimate of reach (and thus response rate) is unavailable. To protect against membership overlap, participants were required to choose a primary organizational affiliation recognizing that listserv participation does not necessarily correlate with current membership. To protect against duplicate responses, each survey was reviewed to assure that none had identical response patterns. Additionally, unique IDs, time stamps, and IP addresses were reviewed to ensure against duplicate responses.

### Dependent Variables

Perceived religious discrimination at the workplace was assessed by adapting three items previously used to study physician experiences with discrimination.<sup>1</sup> We adapted these by adding the word "religion" or replacing the word "race" with "religion," thus probing for religious discrimination. One item inquired about the frequency of workplace discrimination after completing medical school. The other two items asked participants to indicate their level of agreement with the statements "my religion places me under greater scrutiny than non-Muslim colleagues" and "patients have refused my care because of my religious identity." We changed response options from "yes/no" to a 4-point Likert-type agreement scale (1=completely agree, 4=completely disagree).

Discrimination-related job turnover was assessed by two items used in other physician surveys. The first asked, "Have you ever left a job (as a physician) due to encountering discrimination in your workplace (1=no, 2=yes)?"<sup>1</sup> The second inquired, "In your career, do you think that you have ever been passed over for professional advancement because of your religion (1 = no, 2 = not to my knowledge, 3 = possibly, 4 = probably, 5 = yes)?"<sup>23</sup>

Religious accommodation at the workplace was assessed using two items rated along a 4-point Likert-type agreement scale: "My workplace accommodates my religious identity" and "I struggle to find time for prayer at work."<sup>22</sup>

Physician religiosity was measured in three ways: (i) religious importance, (ii) religious involvement, and (iii) religious

appearance. Religious importance was measured with the question, “How important would you say your religion is in your life?”<sup>24</sup> Response options ranged from “not important” to “most important part of my life.” Religious involvement was assessed with items modified from the Duke University Religion Index. These items assessed the frequency with which participants (a) attended congregational worship, and (b) read the Qur’an. Modifications entailed adaptations to answer categories for congregational religious service attendance so as to accurately capture Muslim experiences.<sup>25</sup> For religious appearance, we asked male respondents whether they wore a beard, and female respondents whether they wore a *hijāb* (1=no, 2=yes). We also asked about sectarian affiliation within Islam (1=Sunni, 2=Shi’ite, and 3=Other).

Finally, the questionnaire captured conventional socio-demographic characteristics and practice-level data.

## Data Transformation and Analyses

For ease of interpretation, we dichotomized agreement scales, collapsed response categories where responses totaled less than 5% of the sample into adjacent categories, and dropped the “other” category in analyses. Given that several items and response categories differed between the two surveys, we reorganized responses on the 2021 survey to align with the 2013 version. For example, in 2013, the question about attendance at congregational services had responses that were collapsed into “daily, 2-3 times per month/weekly, rarely/never/on special occasions.” In 2021 the response categories were “rarely or never, a few times a month, once a week, 2 or more times per week, daily, and more than once a day.” We thus collapsed “daily, and more than once a day” into “daily”; “a few times a month, once a week, and 2 or more times per week” into “2-3 times per month/weekly”; and “rarely or never” into “rarely/never/on special occasions” (see [Appendix](#)).

We compared the two cohorts using descriptive (frequencies and percentages) and inferential statistics. Group comparisons were performed using Pearson chi-square and Fisher exact tests using OpenEpi software (OpenEpi Version 3.01<sup>26</sup> [https://www.openepi.com/Menu/OE\\_Menu.htm](https://www.openepi.com/Menu/OE_Menu.htm)) and Stata 17 software (StataCorp., 2021). Subgroup analyses by age, race, and residency status were performed for the following outcomes: experiencing religious discrimination at the workplace over career course, perceptions of being passed over for professional advancement because of their religion, leaving a job due to discrimination at the workplace, and patient refusal of care.

## RESULTS

### Participant Characteristics

In 2013, after excluding members with nonworking addresses, as well as those not meeting inclusion criteria (e.g., not practicing medicine in the USA, non-Muslims), the mailed questionnaire reached 626 potential respondents, and 255

participated (41% response rate). This sample had a mean age of 52 years. Similarly, after excluding non-eligible respondents and those who did not complete any survey items, the 2021 study sample comprised of 264 participants. The 2021 sample was significantly younger with a mean age of 39.5 years ( $p<0.01$ ). In the 2013 study, 172 participants (70%) identified as South Asian, compared to 82 (33%) participants in 2021 ( $p<0.01$ ). Indeed, the 2021 sample was more racially and ethnically diverse as 40 (16%) participants identified as Black/African American and 70 (28%) participants as White/Caucasian whereas only 2 (1%) participants identified as Black/African American and 10 (4%) participants as White/Caucasian in 2013 ( $p<0.01$ ). In 2013, 158 (65%) of participants immigrated to the USA as adults, while 47 (19%) of participants were born in the US. Among the 2021 sample, 41 (17%) participants immigrated to the USA as adults and 146 (59%) were born in the USA ( $p<0.01$ ). In the 2013 cohort, 66 (28%) participants had been practicing medicine for 0–10 years compared to 137 (67%) in 2021 ( $p<0.01$ ) (see [Table 1](#)).

With respect to religiosity, the samples were slightly different as well. For religious affiliation, 222 (91%) participants identified as Sunni and 11 (5%) participants identified as Shi’ite in 2013 compared to 184 (75%) of participants identifying as Sunni and 59 (24%) identifying as Shi’ite in 2021 ( $p<0.01$ ). In 2013, 226 (89%) participants indicated that religion was the most important or a very important part of their life, whereas 191 (73%) participants indicated that religion was the most important or a very important part of their life in 2021 ( $p<0.01$ ) (see [Table 2](#)).

### Discrimination and Accommodation-Related Outcomes

There were several significant differences between the two cohorts. In the 2013 survey, 60 (24%) participants faced religious discrimination frequently in their career compared to 136 (53%) participants in 2021 ( $p<0.01$ ). In 2013, 17 (7%) participants reported job turnover due to religious discrimination compared to 81 (32%) in 2021 ( $p<0.01$ ). In 2013, 61 (24%) participants believed they had been passed over for professional advancement due to their religious identity compared to 145 (57%) in 2021 ( $p, 0.01$ ). In 2013, 22 (9%) participants had patients refuse care due to physician’s religion compared to 84 (33%) in the 2021 survey ( $p<0.01$ ) (see [Table 3](#)).

Discrimination outcomes within subgroups demonstrated similar trends. Among those younger than 40 years, a greater proportion reported experiencing religious discrimination over their career ( $p<0.01$ ), being passed over for promotion ( $p<0.01$ ), job turnover ( $p<0.01$ ), and patients refusing care in 2021 when compared to the 2013 sample. Illustratively, 59% of those aged between 24 and 39 experienced religious discrimination over their career in 2021 ( $p<0.01$ ) compared to 22% in 2013 ( $p<0.01$ ). Thirty-four percent of South Asians in 2021 relative to 19% in 2013 ( $p<0.05$ ) and 74% of Whites

**Table 1 Participant Characteristics from Two National Surveys of Muslim Physicians**

	2013	2021	<i>p</i> -value
Participant characteristics, <i>N</i> (%)	<i>N</i> =255	<i>N</i> =264	
Age (years)	<i>N</i> =238, mean = 52	<i>N</i> =227, mean = 39.5	<0.01
24–39	66 (28)	147 (65)	
40–55	58 (24)	62 (27)	
56–69	76 (32)	11 (5)	
70–84	38 (16)	7 (3)	
Gender	<i>N</i> =246	<i>N</i> =246	0.25
Male	172 (70)	160 (65)	
Race/ethnicity	<i>N</i> =247	<i>N</i> =247	<0.01
South Asian	172 (70)	82 (33)	
Arab or Middle Eastern	54 (22)	55 (22)	
White/Caucasian	10 (4)	70 (28)	
Black/African American	2 (1)	40 (16)	
Residency status	<i>N</i> =244*	<i>N</i> =247*	<0.01
Born In U.S.	47 (19)	146 (59)	
Immigrated to the USA as a child	39 (16)	57 (23)	
Immigrated to the USA as an adult	158 (65)	41 (17)	
Years of medical practice since completion of medical school	<i>N</i> =239	<i>N</i> =205	<0.01
0–10	66 (28)	137 (67)	
11–20	36 (15)	42 (21)	
21–30	48 (20)	10 (5)	
31–41	58 (24)	7 (3)	
42–57	31 (13)	9 (4)	
Primary medical specialty	<i>N</i> =118†	<i>N</i> = 210†	<0.08
Internal medicine subspecialties	43 (36)	65 (31)	
Surgical subspecialties	40 (34)	56 (27)	
Psychiatry	13 (11)	19 (9)	
Obstetrics/gynecology	13 (11)	38 (18)	
Pediatric subspecialties	9 (8)	32 (15)	
Practice type	<i>N</i> =225*	<i>N</i> =243*	<0.01
Teaching hospital	71 (32)	72 (30)	
Physician office/solo practice	64 (28)	48 (20)	
Multispecialty group practice or clinic/physician office or single-specialty group	45 (20)	93 (38)	
Non-teaching hospital	31 (14)	23 (10)	

\*The sum of the subcategories does not equal *n* because the other category was dropped

†For primary medical specialty, the *n* is reported as a sum of the categories analyzed for comparison purposes

relative to 30% in 2013 ( $p<0.01$ ) reported being passed over for professional advancement. Twenty-seven percent of South Asians in 2021 relative to 8% in 2013 ( $p<0.01$ ) and 53% of Whites relative to 10% in 2013 ( $p<0.01$ ) reported patients

refusing care. Forty-two percent of Arabs in 2021 relative to 8% in 2013 ( $p<0.01$ ) and 15% of South Asians in 2021 relative to 8% in 2013 ( $p<0.05$ ) reported patients refusing care because of their physician's religion. Fifty-two percent of

**Table 2 Religiosity Profile of the Two Samples**

	2013	2021	<i>p</i> -value
Participant characteristics	<i>N</i> =255	<i>N</i> =264	
Religious affiliation	<i>N</i> =244‡	<i>N</i> =246‡	<0.01
Sunni	222 (91)	184 (75)	
Shi'ite	11 (4.5)	59 (24)	
Other	11 (4.5)	3 (1)	
Importance of religion in respondent's life	<i>N</i> =254	<i>N</i> =259	<0.01
"The most important part"	136 (54)	102 (39)	
"Very important"	90 (35)	89 (34)	
"Fairly important"	25 (10)	58 (22)	
"Not at all important"	3 (1)	10 (4)	
Frequency of attendance at congregational worship services	<i>N</i> =251	<i>N</i> =263	<0.01
Several times a week or daily	64 (26)	39 (15)	
At least once a month	128 (51)	126 (48)	
Less than monthly but at least once per year	59 (24)	96 (37)	
Frequency of reading the Qur'an outside of prayer	<i>N</i> =251	<i>N</i> =264	<0.01
Daily	79 (32)	91 (34)	
2–3 times per month/weekly	82 (33)	160 (61)	
Rarely/never/on special occasions	90 (36)	13 (5)	
Religious appearance	( <i>N</i> =171 beard, <i>N</i> =71 hijāb)	( <i>N</i> =152 beard, <i>N</i> =83 hijāb)	
Beard	76 (44)	87 (57)	0.02
Hijāb	31 (44)	48 (58)	0.08

‡The other category was dropped from data analysis

Table 3 Discrimination Outcomes from the Two National Surveys of Muslim Physicians

	2013	2021	<i>p</i> -value
Participant characteristics	<i>N</i> =255	<i>N</i> =264	
	<i>N</i> (%)	<i>N</i> (%)	
Experiencing religious discrimination at the workplace over career course	<i>N</i> =251	<i>N</i> =258	<0.01
Often/always	12 (5)	31 (12)	
Sometimes	48 (19)	105 (41)	
Rarely	112 (45)	76 (30)	
Never	79 (32)	46 (18)	
Believe they have been passed over for professional advancement because of their religion	<i>N</i> =254	<i>N</i> =254	<0.01
Yes/probably	30 (12)	59 (23)	
Possibly	31 (12)	86 (34)	
Not to my knowledge	107 (42)	58 (23)	
No	86 (34)	51 (20)	
Left a job due to discrimination at workplace	<i>N</i> =253	<i>N</i> =254	<0.01
Agree	17 (7)	81 (32)	
Agree that their religious identity places them under greater scrutiny at work	<i>N</i> =249	<i>N</i> =255	0.13
Agree	117 (47)	137 (54)	
Report struggling to find time for prayer at work	<i>N</i> =248	<i>N</i> =254	0.19
Agree	125 (50)	143 (56)	
Agree that their workplace accommodates their religious identity	<i>N</i> =247	<i>N</i> =254	0.32
Agree	179 (72)	194 (76)	
Agree with the statement that patients have refused my care because of my religious identity	<i>N</i> =249	<i>N</i> =255	<0.01
Agree	22 (9)	84 (33)	

participants born in the US reported experiencing religious discrimination over their career in 2021 ( $p<0.01$ ) while 20% did in 2013 ( $p<0.01$ ). Additionally, 68% of participants who immigrated to the US as children reported experiencing religious discrimination over their career in 2021 ( $p<0.01$ ) compared to 26% in 2013 ( $p<0.01$ ) (see Table 4).

With respect to outcomes that were not significantly different over half of participants reported struggling to find time to pray at work in both surveys (125 participants [50%] in 2013; 143 [56%] in 2021). Similarly, approximately a half of respondents experienced greater scrutiny at work on account of their religious identity in each sample (117 participants [47%] in 2013; 137 [54%] in 2021). Paradoxically, nearly three-fourth of each cohort agreed that their workplace accommodated their religious identity (179 participants [72%] in 2013; 194 [76%] in 2021).

## DISCUSSION

Workplace discrimination not only negatively impacts career advancement<sup>15</sup> and the well-being of the at-risk physician<sup>4</sup>; it leads to adverse consequences for patient care<sup>4</sup> and healthcare equity.<sup>5,6</sup> Research conducted among clinicians from racialized groups,<sup>15</sup> as well among women physicians,<sup>5</sup> substantiates these problems. We find that Muslim physicians in the USA suffer from workplace discrimination directed at their religious identity, and that these negative experiences may be increasing. Comparisons between the two surveys reveal that a higher proportion of physicians report experiencing religious discrimination, having left a job due to such discrimination, and being passed over for advancement due to their religious identity in 2021 than did in 2013. Subgroup analyses revealed that a larger proportion of Arab, South Asian, White, and US-born participants encountered discrimination in 2021 than in

2013 confirming that the rise in discrimination is directly at participants' religious identity rather than racial/ethnic or immigrant background.

The high prevalence of religious identity discrimination experienced by Muslim physicians is unsettling but not surprising. After the tragic events of September 11, Muslim identity has moved to the center of sociopolitical discourses. This spotlight on Islam and Muslims has led to pervasive negative portrayals in news and entertainment media.<sup>27</sup> Moreover, Muslim communal life has been disrupted by increased surveillance in mosques<sup>28</sup>, policies restricting immigration and mobility such as the "Muslim ban"<sup>29</sup>, and by legislative action to prevent adherence to Islamic law.<sup>18</sup> Anti-Muslim hate crimes have risen,<sup>19,20</sup> and racial, nativist, and religious hatred has divided the nation in recent years.<sup>30</sup> Links between this adverse climate and Muslim community health are actively being researched. For example, the "Muslim ban" has led to significant increases in ED visits and primary care utilization among some Muslim groups.<sup>31</sup> This finding may reflect elevated cumulative stress members of the Muslim community experience due to an increasingly hostile climate.

Our research focused on Muslim clinicians, and how worsening Islamophobia within society may spill over into healthcare. It appears that the workplace climate has gotten more difficult for Muslim physicians in the past decade, and we hazard that worsening social conditions contribute to greater perceived discrimination by supervisors and patients. Yet, other factors may contribute to the observed increase. For one, the Black Lives Matter and similar movements have sensitized individuals to identify social injustices. Thus, it could be that the 2021 respondent pool was more attuned to religious identity-directed discrimination than the 2013 cohort, and hence the rise is partially attributable to greater awareness. Second, the 2021 cohort had a greater proportion of native-born participants

Table 4 Discrimination-Related Outcomes Among Subgroups from the Two National Surveys of Muslim Physicians

	Experiencing religious discrimination over career course		Believe they have been passed over for professional advancement because of their religion		Left a job due to discrimination at workplace		Agree with the statement that patients have refused my care because of my religious identity	
	2013 N (%)	2021 N (%)	2013 N (%)	2021 N (%)	2013 N (%)	2021 N (%)	2013 N (%)	2021 N (%)
Age								
24–39								
14 (22)*	86 (59)*	14 (21)*	93 (63)*	3 (5)*	54 (37)*	5 (8)*	55 (37)*	
40–55								
17 (30)	28 (45)	13 (23)*	29 (47)*	4 (7)†	14 (23)†	8 (14)	16 (26)	
56–69								
18 (24)	4 (36)	19 (25)	6 (55)	6 (8)	1 (9)	5 (7)†	3 (30)†	
70+	9 (24)	1 (14)	3 (8)	0 (0)	3 (8)	2 (29)	1 (3)	0 (0)
Race								
Black/African American	2013	2021	2013	2021	2013	2021	2013	2021
Arab or middle Eastern	0 (0)*	36 (90)*	2 (100)	33 (83)	0 (0)*	36 (90)*	1 (50)	15 (38)
South Asian	14 (26)	25 (45)	19 (35)	29 (53)	4 (8)*	23 (42)*	5 (10)	10 (19)
White/Caucasian	40 (24)	33 (40)	32 (19)†	28 (34)†	10 (6)†	12 (15)†	13 (8)*	22 (27)*
Immigration status								
Born in the USA	2 (20)	38 (54)	3 (30)*	52 (74)*	0 (0)	9 (13)	1 (10)*	37 (53)*
Immigrated to the USA as a child	2013	2021	2013	2021	2013	2021	2013	2021
Immigrated to the USA as an Adult	9 (20)*	76 (52)*	11 (23)*	85 (58)*	2 (4)*	34 (23)*	6 (13)*	58 (40)*
	10 (26)*	39 (68)*	11 (28)*	44 (77)*	3 (8)*	34 (60)*	1 (3)*	16 (28)*
	38 (24)	15 (37)	35 (22)	12 (29)	11 (7)*	11 (27)*	13 (8)†	8 (20)†

\*p<0.01, †p<0.05

and was younger overall; this group may be more vigilant toward religious discrimination relative to that directed at other identity features. Similarly, the 2013 cohort was predominantly comprised of immigrants who might have been more hesitant to report discrimination, or somewhat more tolerating of negative experiences, due to their desire to assimilate. The 2021 survey was also restricted to participants who had worked in academic medical centers; this group may have expected religious accommodations to be more commonplace in the academy; hence, unmet expectations may fuel observed increased rates of religious discrimination.

Somewhat paradoxical is the finding that an overwhelming majority of participants across the two cohorts agreed that their workplace accommodated their religious identity. It could be that individuals interpret religious accommodation in different ways; for some, accommodation may refer to the observance of religious holidays, while for others accommodation may mean being able to wear a *hijab* or have a beard. Varied understandings may explain our findings. Further research is needed to understand what religious accommodation means and looks like to clinicians.

Our data describe high-level trends, detailed qualitative research is needed to understand which features of religious identity and practice put one at risk for discrimination, and how leaders and colleagues can create a workplace that is more welcoming and accommodating. Greater research is also needed to examine the psychological impact discrimination has upon the Muslim physician workforce and their career trajectories. During the pandemic, it is estimated that nearly 20% of the healthcare workforce has left full-time employment, and others have transitioned out of positions that carry undue stress.<sup>32</sup> Given that Muslim clinicians make up at least 5% of the physician workforce,<sup>21</sup> addressing discrimination affecting Muslim clinicians is critical to maintaining a stable workforce and ensuring healthcare access and quality.

Additionally, there has been no systematic investigation of how religious discrimination impacts physicians in the workforce. Studies of physician religiosity often examine how this aspect of identity impacts patient care, and popular media tend to highlight the potential for patient-level discrimination resulting from physician religious beliefs.<sup>33,34</sup> It is possible that such narratives fuel negative reactions by patients, colleagues, and supervisors towards physician religiosity.<sup>35</sup> Thus, studying how work environments acknowledge, account for, and accommodate physician religious beliefs and practices is important. Adding religious affiliation to national physician surveys and local administrative databases of physicians, such as the American Medical Association’s Masterfile, is a necessary first step of such a research agenda.

Finally, our results must be interpreted considering several limitations. First, our samples are drawn from membership lists of Muslim physician organizations which introduces selection bias towards physicians with strong religious identities. Hence, it is likely that our samples are more religious than the general US Muslim physician population possibly skewing

the reported prevalence of discrimination higher. As a result, our work may not precisely represent the aggregate experiences of Muslim physicians in the USA. Nonetheless, our samples reflect the experiences of a significant segment of the Muslim clinician community, and the existence of religious discrimination demands remedy regardless of its frequency. Second, differences in recruitment strategies and sampling frames between the 2013 and the 2021 surveys may influence our findings. The 2013 survey recruited participants from IMANA, while the 2021 survey also included members of the AMHP and the US Muslim Physician network. Furthermore, recruitment was conducted by mail in 2013 and electronically in 2021 and different incentives for participation were offered in 2013 and in 2021. As such, different cross-sections of the US Muslim physician population may have been obtained and this difference may contribute to the observed time trends. Additionally, the membership of both IMANA and AMHP has grown since 2013, and the US Muslim Physician network did not exist in 2013. Our broader sampling frame in 2021 led to the more diverse sample, and thus could be more representative of overall US Muslim physician experiences. Conversely, the 2021 sample was restricted to those having worked at academic medical centers which may have resulted in the observed differences across years and limits the generalizability of our 2021 findings. Third, survey research relies on self-reported experiences of discrimination where recall bias may lead to over- or under-reporting. Actual instances of discrimination may also differ from perceptions. At the same time, perceptions of discrimination lead to the psychological harms of discrimination and compel physicians to make decisions about their career and job. Arguably then perceptions are a viable foundation for taking action regarding workplace discrimination. Finally, close-ended survey items provide an incomplete window into the causative factors, circumstances, and perceptions and experiences of discrimination. Further studies using qualitative methods and incorporating multiple data sources are necessary to obtain a fuller picture into the relationships between religious identity and workplace discrimination.

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#### Declarations:

**Conflict of Interest:** None of the authors have any conflicts of interest to declare.

#### REFERENCES

1. Nunez-Smith M, Pilgrim N, Wynia M, et al. Health care workplace discrimination and physician turnover. *J Natl Med Assoc.* 2009;101(12):1274-82. [https://doi.org/10.1016/s0027-9684\(15\)31139-1](https://doi.org/10.1016/s0027-9684(15)31139-1).
2. Wang LJ, Tanious A, Go C, et al. Gender-based discrimination is prevalent in the integrated vascular trainee experience and serves as a predictor of burnout. *J Vasc Surg.* 2020;71(1):220-7. <https://doi.org/10.1016/j.jvs.2019.02.064>.
3. Hu YY, Ellis RJ, Hewitt DB, et al. Discrimination, abuse, harassment, and burnout in surgical residency training. *N Engl J Med.* 2019;381(18):1741-52. <https://doi.org/10.1056/NEJMsa1903759>.
4. Sharma G, Douglas PS, Hayes SN, et al. Global prevalence and impact of hostility, discrimination, and harassment in the cardiology workplace. *J Am Coll Cardiol.* 2021;77(19):2398-409.
5. Holzgang M, Koenemann N, Skinner H, Burke J, Smith A, Young A. Discrimination in the surgical discipline: an international European evaluation (DISDAIN). *BJS Open.* 2021;5(3). <https://doi.org/10.1093/bjsopen/zrab050>.
6. Bailey ZD, Krieger N, Agénor M, Graves J, Linos N, Bassett MT. Structural racism and health inequities in the USA: evidence and interventions. *Lancet.* 2017;389(10077):1453-63. [https://doi.org/10.1016/s0140-6736\(17\)30569-x](https://doi.org/10.1016/s0140-6736(17)30569-x).
7. Haggins AN. To be seen, heard, and valued: Strategies to promote a sense of belonging for women and underrepresented in medicine physicians. *Acad Med.* 2020;95(10):1507-10. <https://doi.org/10.1097/ACM.0000000000003553>.
8. Stanford FC. The importance of diversity and inclusion in the healthcare workforce. *J Natl Med Assoc.* 2020;112(3):247-9. <https://doi.org/10.1016/j.jnma.2020.03.014>.
9. Ayyala RS, Artunduaga M, Morin CE, Coley BD. Leveraging diversity, equity and inclusion for promoting wellness in the radiology workplace. *Pediatr Radiol.* 2022. <https://doi.org/10.1007/s00247-022-05292-z>.
10. Ukeje C, Elmasri A, Kielb S. Improving gender diversity in urologic residency training. *Curr Urol Rep.* 2021;22(12):60. <https://doi.org/10.1007/s11934-021-01074-6>.
11. Ayyala RS, Artunduaga M, Morin CE, Coley BD. Leveraging diversity, equity and inclusion for promoting wellness in the radiology workplace. *Pediatr Radiol.* 2022;1-6. <https://doi.org/10.1007/s00247-022-05292-z>.
12. Oseni TO, Kelly BN, Pei K, et al. Diversity efforts in surgery: Are we there yet? *Am J Surg.* 2022. <https://doi.org/10.1016/j.amjsurg.2022.01.014>.
13. Wang LJ, Tanious A, Go C, et al. Gender-based discrimination is prevalent in the integrated vascular trainee experience and serves as a predictor of burnout. *J Vasc Surg.* 2020;71(1):220-7.
14. Nunez-Smith M, Pilgrim N, Wynia M, et al. Health care workplace discrimination and physician turnover. *J Natl Med Assoc.* 2009;101(12):1274-82.
15. Filut A, Alvarez M, Carnes M. Discrimination toward physicians of color: A systematic review. *J Natl Med Assoc.* 2020;112(2):117-40. <https://doi.org/10.1016/j.jnma.2020.02.008>.
16. Filut A, Alexander L, Ray A, Pecanac K, Carnes M. "This happens all the time": a qualitative study of general internists' experiences with discriminatory patients. *J Gen Intern Med.* 2021;36(6):1553-60.
17. Osseo-Asare A, Balasuriya L, Huot SJ, et al. Minority resident physicians' views on the role of race/ethnicity in their training experiences in the workplace. *JAMA Net Open.* 2018;1(5):e182723-e.
18. Khan MH, Adnan HM, Kaur S, Khuuro RA, Asghar R, Jabeen S. Muslims' representation in Donald Trump's anti-Muslim-Islam statement: A critical discourse analysis. *Religions.* 2019;10(2):115.
19. Considine C. The racialization of Islam in the United States: Islamophobia, hate crimes, and "flying while brown". *Religions.* 2017;8(9):165.
20. 2019 FBI hate crimes statistics report. U.S. Department of Justice <https://www.justice.gov/crs/highlights/FY-2019-Hate-Crimes>. Accessed 20 Mar 2022.
21. Boulet JR, Duvivier RJ, Pinsky WW. Prevalence of international medical graduates from Muslim-majority nations in the US physician workforce from 2009 to 2019. *JAMA Netw Open.* 2020;3(7):e209418.

22. **Padela AI, Adam H, Ahmad M, Hosseinian Z, Curlin F.** Religious identity and workplace discrimination: A national survey of American Muslim physicians. *AJOB Empirical Bioethics.* 2015;7(3):149-59. <https://doi.org/10.1080/23294515.2015.1111271>.
23. **Peterson NB, Friedman RH, Ash AS, Franco S, Carr PL.** Faculty self-reported experiences with racial and ethnic discrimination in academic medicine. *J Gen Intern Med.* 2004;19(3):259-65. <https://doi.org/10.1111/j.1525-1497.2004.20409.x>.
24. **Curlin FA, Chin MH, Sellergren SA, Roach CJ, Lantos JD.** The association of physicians' religious characteristics with their attitudes and self-reported behaviors regarding religion and spirituality in the clinical encounter. *Medical Care.* 2006;446-53.
25. **Koenig HG, Büssing A.** The Duke University Religion Index (DUREL): a five-item measure for use in epidemiological studies. *Religions.* 2010;1(1):78-85.
26. **Dean AG, Sullivan K, Soe M.** OpenEpi: Open source epidemiologic statistics for public health, version. [https://www.openepi.com/Menu/OE\\_Menu.htm](https://www.openepi.com/Menu/OE_Menu.htm). Accessed 10/12/2021.
27. **Abdullah MAS.** Muslims in pre- and post-9/11 contexts. *Int J Comp Lit Translat Stud.* 2015;3(3).
28. **Sullivan E.** NYPD spied on city's Muslim anti-terror partners and allies of mayor Bloomberg; Associated Press, October; 2011.
29. **Al-Samman H.** Invading Muslim bodies in the era of Trump. *J Middle East Women's Stud.* 2017;13(3):483-5. <https://doi.org/10.1215/15525864-4179177>.
30. **Tanne JH.** Report highlights "devastating impacts" of Trump on every aspect of US health. *BMJ.* 2021;372:n439.
31. **Samuels EA, Orr L, White EB, et al.** Health care utilization before and after the "Muslim Ban" executive order among people born in Muslim-majority countries and living in the US. *JAMA Netw Open.* 2021;4(7):e2118216. <https://doi.org/10.1001/jamanetworkopen.2021.18216>.
32. **Sinsky CA, Brown RL, Stillman MJ, Linzer M.** COVID-related stress and work intentions in a sample of US health care workers. *Mayo Clin Proc Innov Qual Outcomes.* 2021;5(6):1165-73. <https://doi.org/10.1016/j.mayocpiqo.2021.08.007>.
33. **Lawrence RE, Curlin FA.** Autonomy, religion and clinical decisions: findings from a national physician survey. *J Med Ethics.* 2009;35(4):214-218.
34. **Erdely S.** Doctors' beliefs can hinder patient care. 2007. <https://www.nbcnews.com/id/wbna19190916>. Accessed 8/22/2022.
35. **Kogan R, Kraschel K, Haupt C.** Which legal approaches help limit harms to patients from clinicians' conscience-based refusals? *AMA J Ethics.* 2020;22(3):E209-216

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