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ORIGINAL PAPER

The Termination of Deferred Action for Childhood Arrival (DACA) Protections and Medical Education in the U.S.

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Abstract

The termination of the Deferred Action for Childhood Arrivals (DACA) immigration policy poses unique challenges for medical education and healthcare. A survey on DACA was administered online using Qualtrics Software System to 121 unique U.S.-MD granting medical school admissions leadership using e-mails between January 2018 and April 2018. A total of 39 individuals out of 121 (32%) responded to the survey; 23 (59%) of respondents identified as medical school admissions deans, 11 (28%) identified as directors and 5 (13%) as staff/officers. During the past 4 years, 19 (49%) reported having accepted DACA students. The majority either incorrectly answered or were otherwise unsure about the effect of DACA on medical education. The correlation between perception of understanding DACA and mean knowledge composite score was 0.38, $P < 0.05$. This study found that U.S.-MD granting medical school admissions leaders self-reported knowledge was moderately correlated with actual knowledge about DACA.

Keywords Deferred action for childhood arrivals · Immigrants · Diversity · Medical education

Background

The White House's decision to end the Deferred Action for Childhood Arrivals (DACA) program may result in the deportation of more than 690,000 undocumented immigrants who came to the U.S. as children [1]. DACA is a discretionary determination to defer a removal action of an undocumented individual from the U.S. DACA recipients are eligible to apply for an Employment Authorization Document (EAD), commonly known as a work permit. DACA has also allowed undocumented children, youth and young adults to pursue a college education and attend professional schools. An EAD allows DACA recipients to pursue undergraduate and graduate medical education and training, as well as eligibility to train in Veteran Affairs (VA) facilities and to receive medical licensure in some states [2, 3]. Despite the White House's decision to end DACA, recent federal injunctions currently allow DACA recipients to renew their DACA status. The ultimate termination of DACA without immigration reform, however, could have far-reaching implications and may result in a decrease in the number of Latinx and other underrepresented medical students and exacerbate physician shortages in underserved communities and healthcare.

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Welcoming applications from DACA students provides medical schools and graduate medical education programs with access to a pool of diverse applicants who can meet the cultural and linguistic needs of underserved and immigrant communities [4, 5]. Based on 2017 data from the United States Citizenship and Immigration Services (USCIS), DACA recipients immigrated to the U.S. from over 149 countries. As of September 2017, there are 689, 800 individuals who have received DACA status, with the majority living in California, Texas, Illinois, New York and Florida. Furthermore, an estimated 82% of DACA-eligible young adults in California are Latinx or from Spanish-speaking countries. [6] Studies have shown that physicians who speak a language in addition to English are more likely to practice in underserved communities [7–9]. With the termination of DACA, there are approximately 100 current medical students and potentially thousands of medical school applicants in the U.S. whose future is uncertain [2, 10, 11]. There are numerous implications on medical education and training, employer responsibilities and medical licensure policies when considering DACA recipients. Willingness to consider students with DACA status, is further compromised by confusion over the facts and future of DACA and state variability of medical licensure laws throughout the U.S.

This study surveyed a national sample of admissions deans, directors and staff/officers of U.S.-MD granting medical schools to assess their knowledge of DACA, experiences with DACA applicants and medical students, and opinions regarding the termination of DACA.

Methods

A survey was administered online via Qualtrics Software System to 121 unique U.S.-MD granting medical school admissions deans/directors/staff/officers, using publicly available e-mails between January 2018 and April 2018. E-mail information was searched and recorded using the AAMC Medical School Members list and medical school websites for all U.S.-MD granting medical school, excluding 30 medical schools without accreditation or those located in Canada, Puerto Rico and those without any contact information. We first contacted deans, then directors and officers and finally staff. Participation was voluntary, and no incentives were offered. The University of California, Davis Institutional Review Board approved the survey.

This study was grounded by the theoretical framework of self-perceived and actual knowledge [12]. The model theorizes that perceived knowledge impacts the processing of new and old information. We applied this model because of the critical misinformation and lack of information about DACA in medical education. The survey consisted of 20 total items that were constructed using available literature on DACA and medical education [2]. All the questions were categorical, and none were open-ended questions. A survey pilot test was carried out to assess order of questions, level of difficulty and length; pilot participants included several members of the study team with extensive experience in medical school admissions. These pilot participants were not part of the team that created the survey. Pilot participants responded to the entire survey ensuring proper flow, coherence and appropriateness. The first survey item inquired about the respondents' role in their respective medical school, followed by one global item using a Likert scale about how well they perceived understanding DACA. Eight items then assessed their knowledge of DACA, seven items asked about their experiences with DACA applicants and medical students, and the survey ended with three items that asked about their opinions regarding the termination of DACA. Additional characteristics about the medical schools represented included: U.S. Census region where medical school is located, private versus public school ownership, and the number of DACA residents in the corresponding state [1].

The survey included general questions about the role of respondents and did not collect any identifying information about each medical school. Moreover, the survey did not ask for any identifying information about any DACA students. The study's objective was not to profile individual medical schools or students, and instead was to gather insight into national trends. This was done to establish anonymity of respondents, and their respective medical schools and students. The purpose was to ensure validity, privacy and transparency of the data.

Univariate frequencies and proportions using Stata Statistical Software (Version 15), were calculated. The number of correct DACA-related responses were summed up to constitute a total composite DACA knowledge score (possible scores ranging between 0 and 8). These responses were then compared by respondent type (dean, director or officer/staff), U.S. Census region in which medical school is located, and public versus private. For bivariate statistical analyses, we conducted unadjusted ANOVA statistical tests to examine relationships between continuous (knowledge score) and a categorical variable (respondent and medical school characteristics).

χ^2 tests were used to examine the relationship between two categorical variables. Finally, we calculated the Pearson's correlation between perceived understanding of DACA and the composite knowledge score. We used a p value of < 0.05 to determine statistical significance.

Results

The response rate was 32% (39/121). Table 1 shows the characteristics of respondents, compared to non-respondents. The role of respondents in their institution varied: 23 (59%)

consisting ofidentified as medical school admissions deans, 11 (28%) as directors and 5 (13%) as staff/officers. Of these, 8 (21%) were from medical schools located in the West, 12 (31%) from the Midwest, 5 (13%) from the Northeast, and 14 (36%) from the South. Among all respondents, 22 (56%) represented a medical school located in a state with < 10,000 DACA recipients.

Table 2 includes a summary of respondent's experiences and future plans with DACA by respondent role. During the past 4 years, 19 (49%) respondents reported having accepted DACA students, compared to 20 (51%) who reported not accepting any DACA students. The majority of respondents 25 (64%) reported having a policy in place to help guide admission decisions when considering DACA applicants. Of those respondents who indicated that their institution has a policy to provide guidance for admission decisions regarding DACA students, 18 (75%) reported that their institution did not have or were unsure if there were any policies providing guidance for admission decisions once DACA is terminated. The minority 11 (28%) of respondents reported that their medical school is developing a policy or policies on DACA. The majority 21 (54%) of respondents reported that their medical schools either did not provide financial support to DACA medical students. When we examined bivariate relationships between respondent's answers to questions about experiences and future plans with DACA by medical school role we found a statistically significant difference in the way different types of respondents answered the questions (1) having policies to help guide admission decisions when considering DACA applicants (P = 0.04) and (2) developing a policy or policies on DACA (P = 0.01).

When examining knowledge about DACA, 31 (80%) reported understanding DACA "extremely well," "very well," or "moderately well," compared to 8 (20%) respondents who reported understanding DACA "slightly well," or "not well at all." Figure 1 shows the percentage of correct responses to DACA knowledge questions provided in the survey. Of all respondents, 32 (82%) answered correctly that DACA provides a work permit, and 36 (92%) correctly answered that DACA allows students to enroll into medical school. In contrast, 25 (65%) were either incorrect or unsure about DACA employment restrictions, 25 (65%) were incorrect or unsure if DACA medical student or trainees are allowed to rotate at Veteran Affairs facilities, and 27 (69%) of respondents were incorrect or unsure whether DACA trainees are eligible for medical licensure in their respective state. The mean knowledge composite score was 5.2 (SD 1.8) for Medical School Admissions Deans, 4.9 (SD 2.2) for directors and 5.0 (SD 1.7) for officers/staff, P = 0.70. There was a statistically significant difference when comparing

Table 1 Characteristics of DACA survey respondents and non-respondents

Characteristics	Respondents N (%)	Non-respondents N (%)
Total respondents	39 (32)	82 (68)
Role of respondents		
Medical school admissions deans	23 (59)	
Medical school admissions directors	11(28)	–
Medical school admissions officer/staff	5 (13)	–
U.S. Census region in which medical school is located		
West	8 (21)	8 (10)
Midwest	12 (31)	20 (24)
Northeast	5 (13)	25 (30)
South	14 (36)	29 (35)
Public or private medical school status		
Public	22 (56)	48 (59)
Private	17 (43)	34 (41)
Medical school class size		
< 100	8 (21)	10 (12)
100–149	9 (23)	30 (37)
150–179	9 (23)	22 (27)
> 180	13 (33)	20 (24)
Estimated total number of DACA recipients, living in the state where the medical school is located		
< 10,000	22 (56)	44 (54)
10,000–50,000	7 (18)	31 (38)
50,000–250,000	3 (8)	5 (6)
250,000–2,000,000	7 (18)	2 (2)

Table 2 Survey respondents: experiences and future plans with DACA by respondent role

Survey item	Yes N (%)	No N (%)	Unsure N (%)	P value
The medical school:				
Has accepted a DACA applicant in the past 4 years				
Cumulative responses	19 (49)	20 (51)	0	0.10
Medical school admissions dean	8 (35)	15 (65)	0	
Medical school admissions director	8 (73)	3 (27)	0	
Medical school admissions officer/staff	3 (60)	2 (40)	0	
Has policies to help guide admission decisions when considering DACA applicants				
Cumulative responses	25 (64)	13 (33)	1 (3)	0.04
Medical school admissions dean	16 (70)	7 (30)	0	
Medical school admissions director	8 (73)	3 (27)	0	
Medical school admissions officer/staff	1 (20)	3 (60)	1 (20)	
Has policies to provide guidance on what will happen when DACA is terminated				
Cumulative responses	5 (21)	18 (75)	1 (4)	0.06
Medical school admissions dean	4 (25)	12 (75)	0	
Medical school admissions director	1 (13)	6 (75)	1 (13)	
Medical school admissions officer/staff	0	0	5 (100)	
Is developing a policy or policies on DACA				
Cumulative responses	11 (28)	16 (41)	12 (31)	0.01
Medical school admissions dean	9 (39)	12 (52)	2 (9)	
Medical school admissions director	1 (9)	3 (27)	7 (63)	
Medical school admissions officer/staff	1 (20)	1 (20)	3 (60)	
Provides financial support to DACA medical students 0.067				
Cumulative responses	15 (38)	21 (54)	3 (8)	0.07
Medical school admissions dean	9 (39)	13 (57)	1 (4)	
Medical school admissions director	5 (45)	6 (55)	0	
Medical school admissions officer/staff	2 (40)	1 (20)	2 (40)	

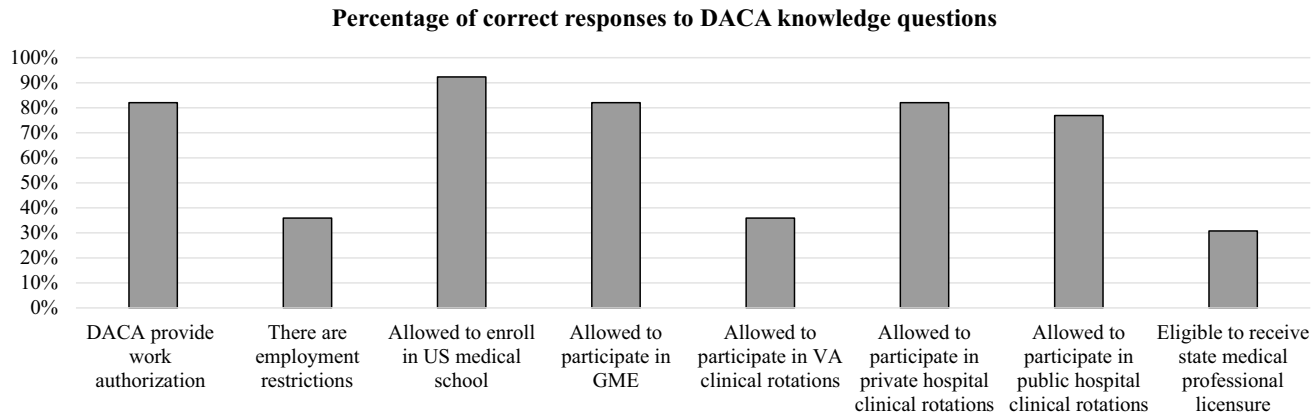

Fig. 1 Survey respondents: knowledge of deferred action for childhood arrivals (DACA)

mean knowledge composite scores of public 5.8 (SD 1.1) and private medical schools 4.5 (SD 2.2), P = 0.007. The correlation between perception of understanding DACA and mean knowledge composite score was 0.38, P < 0.05.

When asked about the termination of DACA, 24 (62%) regarded the termination of DACA as an event that will hurt medical education, 29 (74%) regarded DACA's termination as something that will hurt diversity of the healthcare workforce, and 30 (77%) respondents considered its termination as an event that will hurt efforts to provide culturally and linguistically appropriate services to patients.

Discussion

This study found that U.S.-MD granting medical school admissions deans, admissions directors and admissions officers/staff reported that the termination of DACA will hurt medical education, diversity of the healthcare workforce, and efforts to provide culturally and linguistically appropriate services to patients. Self-reported knowledge was moderately correlated with actual knowledge about DACA. The impact of this knowledge mismatch on medical school admissions decisions of DACA recipients is unclear. Prior literature supports the limited or lack of inaccurate information on DACA provides additional barriers for medical educators and students [2–4, 13]. Furthermore, this study found medical school admission reported the termination of DACA will hurt medical education, diversity of the healthcare workforce, and efforts to provide culturally and linguistically appropriate services to patients. The loss of DACA medical students and residents may further compromise the diversity of physicians in the U.S., negatively impacting underserved communities. The deportation of DACA applicants and medical school students may also impact medical students, school learning climate, faculty and administrators. As a result, its potential termination requires strong and urgent advocacy by the medical profession [14].

As U.S. medical schools strive to train a diverse workforce that will provide culturally responsive care, it is critical to consider the many implications the termination of DACA will have on medical education and healthcare. Multiple studies have shown that culturally and linguistically-concordant physicians often have better patient outcomes than culturally and linguistically-discordant physicians [15–17]. Furthermore, the Association of American Medical Colleges (AAMC) predicts an overall shortage of up to 120,000 physicians by 2030 largely due to the demographic changes and population growth predicted by the U.S. Census Bureau. These shortages are likely to be disproportionately more acute in underserved areas, where many of the growing number of DACA medical students are likely to meet the cultural and linguistic needs of immigrant communities.

This study also found a variation in knowledge about DACA provisions as well as experiences with DACA medical students and trainees. While the majority reported understanding DACA, the majority either incorrectly answered or were unsure of DACA work restrictions, participation eligibility for clinical rotations at the VA facilities, and state medical licensure eligibility. Despite federal injunctions and existing information on DACA by the Association of American Medical College (AAMC) [18] and the National Residency Matching Program (NRMP) [19], the variation in knowledge of DACA from this study may reflect confusion about the implications of the termination of DACA. A renewed educational and sustained effort to better inform undergraduate and graduate medical education programs about DACA and undocumented individuals in the United States is needed [2]. Policies on DACA may further support the Liaison Committee on Medical Education standard IS-16, by ensuring that medical education programs have policies and practices to achieve appropriate diversity, as well as to retain students and trainees from diverse backgrounds. A greater level of organization, planning and support, by both national and statewide medical and health organizations, is needed to fully realize the potential benefits of DACA's medical students and physicians.

The majority of our survey's respondents indicated that their institutions do not provide financial aid to DACA students. Medical schools, however, can facilitate access to in-state tuition in some states and private or institutional scholarships available to DACA recipients in some states. Furthermore, to ensure the recruitment and retainment of DACA students, it is imperative to advocate for institutional and governmental policy changes. At the institutional level, medical schools can be more transparent about their financial aid policies for DACA students. Furthermore, institutions can consider establishing institutional loans or scholarships for DACA students as traditional funding mechanisms are not always available. In addition, medical professional societies can advocate for state legislation that will provide a clearer path to medical licensure and loan repayment programs.

This study is limited as a cross-sectional design, administered over the specific time frame between January 2018 and April 2018. This study's sample size was additionally small, and the results of this study are not generalizable to non-respondent and non-MD granting medical schools. It is possible that schools who have or are considering accepting DACA students, were more likely to respond than schools who are not. Thus, given this study's sampling strategy, these findings may reveal knowledge, experiences and opinions from a biased sample of medical schools. Many medical schools may also be actively updating their policies with respect to DACA, and our survey only represents responses based on a limited time frame of survey availability. Respondents, additionally, may have also provided socially-desirable answers.

This study has timely and important policy implications. There are important concerns among medical school admissions deans, admissions directors and admissions staff/officers about the termination of DACA and its implications on medical education. The ambiguity regarding DACA's termination may also limit medical schools' abilities to consider future DACA applicants. Targeted and

effective dissemination of updated, and factual information is needed to inform DACA policies. In addition, the medical profession should call for a stronger response from medical schools, residency programs, and the medical profession as a whole [13].

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Compliance with Ethical Standards

Conflict of interest All authors declared that they have no competing interests.

Ethical Approval The University of California, Davis Institutional Review Board deemed this study exempt from review.

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