

Inclusion, Diversity, Access, and Equity in Infectious Diseases Fellowship Training: Tools for Program Directors

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The Infectious Diseases Society of America (IDSA) has set clear priorities in recent years to promote inclusion, diversity, access, and equity (IDA&E) in infectious disease (ID) clinical practice, medical education, and research. The IDSA IDA&E Task Force was launched in 2018 to ensure implementation of these principles. The IDSA Training Program Directors Committee met in 2021 and discussed IDA&E best practices as they pertain to the education of ID fellows. Committee members sought to develop specific goals and strategies related to recruitment, clinical training, didactics, and faculty development. This article represents a presentation of ideas brought forth at the meeting in those spheres and is meant to serve as a reference document for ID training program directors seeking guidance in this area.

Keywords. diversity; equity; inclusion; infectious diseases fellowship; medical education.

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Health disparities are prevalent, fueled in part by a historical lack of emphasis on diversity and inclusion among medical professionals and in graduate medical education (GME). In 2018, the Infectious Diseases Society of America (IDSA) Board of Directors launched the Inclusion, Diversity, Access, and Equity (IDA&E) Task Force to enhance racial and gender diversity in infectious diseases (ID) [1], which is essential in order to provide comprehensive, culturally sensitive, and competent care and educate our fellows to provide the same.

The annual IDWeek Fellowship Training Program Director (PD) meeting provides a forum for PDs to exchange ideas to

and subsequently make tangible improvements in their programs. “Diversity, Equity and Inclusion” was selected as the theme of the PD meeting at the 2021 IDWeek meeting. PD committee members identified via consensus 4 IDA&E-related topics of relevance to ID fellowship training: fellowship recruitment, clinical training, didactics, and faculty development. Attendees heard presentations on each topic, participated in moderated small group discussions, then reported on consensus discussion points, common challenges, and specific action items PDs could employ. Summary outlines from meeting notes formed the foundation for this manuscript.

IDA&E IN ID FELLOWSHIP RECRUITMENT

What Are Current Challenges and Solutions Regarding IDA&E in ID Fellowship Recruitment?

Fellowship PDs play a critical role in incorporating IDA&E into training programs and are often tasked with leading efforts to promote IDA&E in recruitment of persons underrepresented in medicine (URiM). Notably, the American Association of Medical Colleges has a specific definition of URiM, but we acknowledge that there are other groups to consider [2]. Current challenges identified in recruiting URiM and disadvantaged applicants include limitations in specific applicant information available from the Electronic Residency Application Service, applicants’ financial limitations, funding limitations based on visa status, and insufficient human resources to properly screen and review applications holistically. Additionally, application reviewers may have inherent biases including, but not limited to, overreliance on residency program “reputation” and on easily quantifiable but potentially biased metrics (eg, United States Medical Licensing Examination scores, number of publications, abstract presentations). Standardized tests scores have not been shown to correlate with clinical performance, are more likely to be influenced by parental income than any other measure [3, 4], and carry bias against underrepresented minorities [5]. Readers and writers of letters of recommendation may also not fully consider concepts such as life distance traveled (accounting for barriers individuals face through their educational journey) [6]. The strength and language of letters of recommendation may introduce bias against URiM and other candidates, which can perpetuate disadvantages within the application system [7]. As such, training faculty and establishing a guide for the holistic review of applicants are essential [8, 9].

To attract URiM and other diverse applicants, programs should demonstrate a clear commitment to addressing systemic inequities in healthcare by establishing an IDA&E committee and/or appointing a dedicated faculty advocate, as well as developing educational curricula that provide insight into racism and inequities in medicine [10]. Partnering with other department of medicine subspecialty fellowship programs, parent programs (internal medicine), institutional GME offices, diversity offices, and/or faculty affairs offices can be beneficial to advance

IDA&E work and showcase it for recruitment. Additional strategies to promote IDA&E in recruitment are presented in [Table 1](#).

IDA&E IN CLINICAL TRAINING

How Can IDA&E Education Be Integrated Into ID Fellowship Clinical Training?

The clinical training of ID fellows can be structured to augment their education related to IDA&E topics. First, training in a variety of clinical environments (eg, university-based, Veterans Administration, community-based, and/or county hospitals/clinics) will expose fellows to multiple patient cohorts that differ by racial, ethnic, socioeconomic, gender, health literacy, and other characteristics, thereby providing rich and diverse perspectives and experiences, especially when paired with IDA&E case-based teaching. Additionally, caring for patients with diverse social and economic challenges can result in a variety of informative educational experiences that enhance awareness of IDA&E issues and promote better care. IDA&E-focused quality improvement or research projects to improve patient care can be developed (eg, devising mechanisms to improve access to intravenous antibiotics). ID fellows can learn about and address barriers to care through multidisciplinary rounds or meetings. Furthermore, ID programs can partner with other specialty areas such as addiction medicine or endocrinology (eg, to enhance gender-affirming care) to help further patient care goals.

Continuity clinics for people with human immunodeficiency virus provide fellows with opportunities to care for a diverse panel of patients often challenged by health inequities. Programs can incorporate IDA&E-related education by emphasizing certain relevant aspects of patient care, such as the most appropriate and culturally sensitive way to address patients; use of preferred pronouns; addressing social, economic, and other barriers to care; and developing strategies to improve linkage, retention to care, and access to antiretroviral therapy. [Table 2](#) delineates strategies to promote IDA&E in different programmatic settings.

IDA&E IN ID FELLOWSHIP DIDACTICS

How Can IDA&E Education Be Integrated Into ID Fellowship Didactics?

Curricula for fellowship training programs should include didactic coursework and self-directed learning related to IDA&E that target both fellows and faculty as learners. IDA&E core topics include implicit bias; microaggressions; social determinants of health; health disparities and health equity; racism in medicine; communication skills for building sexual, sociocultural, and substance use histories; and IDA&E in research. In addition, every core lecture could be evaluated for the potential to include relevant IDA&E core topics (eg, *Staphylococcus aureus* bacteremia and caring for patients who inject drugs). A needs assessment of the fellows about their knowledge, attitudes, and skills regarding IDA&E issues can be helpful to identify areas upon which to focus efforts and guide the development of initiatives to enhance IDA&E training.

Table 1. Strategies to Promote Inclusion, Diversity, Access, and Equity Throughout Infectious Diseases Fellowship Recruitment

Interview Stage	Recommended Strategies	Rationale
Preinterview	<ul style="list-style-type: none"> Faculty development for application screeners and/or interviewers highlighting concepts of life “distance traveled,” life experiences, cultural background in LORs; recognize systemic bias in standardized testing Have several diverse screeners for applications Create a scoring system, which includes a measure of life distance traveled and potential inequities in mentorship and research opportunities Implicit bias training for reviewers and interviewers (including potential bias related to a candidate’s appearance, accent, background, and/or internet connection) [11] Train interviewers on interview assessment tools Host a virtual URiM specific recruitment event (can combined with other local programs) Fellowship website information including links to IDA&E initiatives, an inclusive mission statement, and opportunities available for visa holders Website and social media posts screened for IDA&E to ensure they promote equity and are free from bias 	<ul style="list-style-type: none"> The initial focus of applicant reviews should be holistic, defined by the AAMC as “mission-aligned admissions or selection processes that take into consideration applicants’ experiences, attributes, and academic metrics as well as the value an applicant would contribute to learning, practice, and teaching” [5]. Consideration should be given to life distance traveled [6]. Examples of these life experiences include being a first-generation college student, needing to work to pay for school, and having been a primary caregiver for a family member. Consider how those with privilege have used their opportunities and how they can contribute to the mission of the fellowship program (eg, commitment to working with underserved communities). Engaging multiple and diverse initial reviewers per application can ensure 1 person’s biases do not adversely impact who is invited to interview.
Interview day	<ul style="list-style-type: none"> Conduct virtual interviews to reduce financial strain on candidates Highlight the importance of recruiting a diverse workforce and IDA&E initiatives Use standardized interview questions aligned with mission statement Consider including interview “teams” of at least 2 faculty members with diverse representation to reduce bias Make videos highlighting program information, training tracks, and faculty profiles accessible on program website Consider matching URiM applicants with at least 1 URiM faculty Consider matching URiM applicants with URiM fellows who can share personal experience and insights Have interviewers submit same-day assessments of candidates to avoid recall and other biases 	<ul style="list-style-type: none"> The COVID-19 pandemic shifted fellowship interviews to the virtual space. Virtual interviews are considerably less expensive and less time consuming for applicants. Programs should maintain a virtual interview model to mitigate potential biases related to the financial burden of the interview process. The use of standardized interview questions, including behavioral or situational questions, enhances the reliability, validity, and fairness of interviews as compared with nonstandardized questions [12].
Postinterview	<ul style="list-style-type: none"> Address and discuss biases that come up during rank meeting in real time Have IDA&E representation during rank meeting Discuss URiM candidates early in the rank meeting Discuss what a candidate may add to a program’s culture rather than their “fit” into the current culture 	<ul style="list-style-type: none"> Presenting all candidates, both URiM and non-URiM, by sharing their portfolio in a narrative format (narrative review) may improve the committee’s understanding of their own biases. Discussing candidates early in the rank meeting and discussing what a candidate may add to the program culture can help mitigate bias. Programs should ensure the routine consideration of life experiences and disadvantages overcome when evaluating all applicants.
Fellow retention	<ul style="list-style-type: none"> Ensure an inclusive training environment Implement IDA&E principles into didactic and training curricula Have a diverse pool of near-peer and faculty mentors Funding mechanisms and visa support for educational and employment opportunities for noncitizens Leverage pipeline programs 	<ul style="list-style-type: none"> An inclusive and supportive learning environment is essential for fellow well-being. Programs and institutions should demonstrate a clear commitment to IDA&E.

Abbreviations: AAMC, American Association of Medical Colleges; COVID-19, coronavirus disease 2019; IDA&E, inclusion, diversity, access, and equity; LORs, letters of recommendation; URiM, persons underrepresented in medicine.

Programs can make efficient use of preexisting resources such as content from the MedEdPORTAL Diversity, Equity, and Inclusion Collection [16] and infrastructure such as programs developed by GME offices. Cross-specialty or institutional IDA&E committees can also serve as resources for individual programs and may be an effective option for curriculum development and delivery. Table 2 describes strategies to incorporate IDA&E in the didactic setting.

IDA&E AND FACULTY DEVELOPMENT

What Approaches Can Be Used for IDA&E-Focused Faculty Development?

Faculty development in IDA&E is an essential component of a successful fellowship training program so that all faculty can

model IDA&E principles, serve as champions for IDA&E initiatives, and be tasked with incorporating these principles into the training program curricula [12, 19]. Because faculty members differ in their past experiences, perceptions of cultural norms, and comfort with addressing or modifying the tradition of an institution’s practices, there may be varying levels of acceptance of IDA&E issues. Acknowledging this variability can inform the development of multifaceted options for IDA&E training that seek to meet people where they are, reduce the barriers to learning, and move everyone toward greater acceptance of the value of these initiatives. Importantly, leadership engagement, commitment, and support are critical for successful faculty development IDA&E initiatives. IDA&E should be reflected in the organization’s strategic plan, goals, and metrics [20].

Table 2. Strategies to Promote Inclusion, Diversity, Access, and Equity in Fellowship Training by Primary Programmatic Setting

Programmatic Setting	Recommended Strategies and Examples
Inpatient	<ul style="list-style-type: none"> Encourage rotations through a range of patient care settings; programs with a more limited number of clinical environments could consider partnering with other institutions to broaden rotation opportunities
Ambulatory	<ul style="list-style-type: none"> Incorporate IDA&E-related education into HIV continuity clinic and other ambulatory experiences
Clinical care programs and collaborations	<ul style="list-style-type: none"> Develop institutional programs aimed at allowing better access to outpatient intravenous antibiotics or expensive oral antimicrobials Encourage multidisciplinary rounds and huddles (including clinicians, social workers, and case management experts) at different clinical sites, both in the inpatient and outpatient setting Partner with other specialty areas such as addiction medicine or endocrinology (eg, to enhance transgender care)
Program administration	<ul style="list-style-type: none"> Utilize QI initiatives to raise awareness of IDA&E issues (eg, assessing race-based differences in cervical cancer screening rates among PWH and developing an intervention to address findings) Convene an IDA&E Committee within the fellowship program's ID division with a clear mission and goals related to enhancing patient care Partner with an institution's DOM, SOM, or GME to share resources devoted to IDA&E
Faculty development	<ul style="list-style-type: none"> Achieve common commitment to IDA&E Motivate buy-in with data-driven approaches to establish the need for curricula and initiatives and demonstrate positive outcomes Narrative and case-based discussions can highlight the impact IDA&E issues have on trainees and patients [13] Train faculty and staff on the use of inclusive and bias-free language to promote health equity [14] Align with organization's strategic plan, goals, and metrics [15] Content should include IDA&E core topics: implicit bias; microaggressions; bystander training; cultural humility; social determinants of health; health disparities and health equity; racism in medicine; communication skills for building sexual, sociocultural, and substance use histories; and IDA&E in research
Didactic curriculum	<ul style="list-style-type: none"> Cross-specialty/interprofessional case-based conferences specifically focused on social determinants of health, health disparities and how to address these at the micro (individual) and macro (health systems) levels IDA&E topics integrated into preexisting conferences (eg, Grand Rounds, morning report, specialty case conferences) Quality improvement projects focused on evaluating or addressing IDA&E Research training focused on IDA&E (eg, how to incorporate IDA&E in research study designs, grant applications, research projects aimed at IDA&E topics) Simulation exercises highlighting IDA&E issues (including, but not limited to, how to address microaggressions) Adapt and integrate IDA&E curricula published in peer-reviewed literature to fellowship activities (eg, MedEdPORTAL Diversity, Equity, and Inclusion Collection [16]) Online courses and podcasts specifically focused on IDA&E [17, 18] IDA&E case studies and related discussion (clinic-based or during case conferences) Provision of a bibliography of relevant literature focused on IDA&E topics

Abbreviations: HIV, human immunodeficiency virus; DOM, department of medicine; GME, graduate medical education; ID, infectious diseases; IDA&E, inclusion, diversity, access, and equity; PWH, people with human immunodeficiency virus; QI, quality improvement; SOM, school of medicine.

CONCLUSIONS

To recruit and train a diverse workforce that is well-prepared to address disparities and meet the challenges of modern healthcare, ID fellowship program directors must integrate IDA&E best practices into recruitment, clinical training, didactic curricula, and faculty development efforts. Organization and leadership commitment to and support of IDA&E are essential for an ID fellowship program's success.

Notes

Patient consent. This manuscript does not include clinical data. The design of the work conforms to current United States standards and is considered institutional review board exempt.

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