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Strengthened through diversity: a blueprint for organizational change.

From the American Neurological Association IDEAS Taskforce.

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Introduction

Recently, healthcare and medicine have broadly sharpened their focus on inequity, unconscious bias, and systemic racism. Accordingly, the field of neurology has identified serious challenges in our culture, academic structures, training, and, most importantly- disparities in access to and receipt of quality care for neurological disease. For the last decade, the American Neurological Association (ANA) has been changing its structure to welcome a broader and more diverse membership within the clinical, educational, and scientific domains of academic neurology. These acts arise from the ANA's aspirations to develop a more inclusive and equitable internal culture and serve as a resource to academic neurology departments seeking to promote equity of opportunity for neurologists and neuroscientists in research, education, and clinical care. The ultimate goal of these actions is to achieve equity in neurological research, health, and care.

According to the principle of inclusive excellence, "Diversity is a key component of a comprehensive strategy for achieving institutional excellence" ¹. The success of an academic community or institution depends on how well it values, engages, promotes, and includes a richly diverse constituency of students, staff, faculty, administrators, and alumni. Not only is this a moral imperative, but there is empirical evidence that diverse scientific or corporate teams are more productive and more creative. Teams that include different kinds of thinkers or diverse perspectives outperform homogenous groups on complex tasks, producing what has been called "diversity bonuses" ². Thus, DEI (diversity, equity, and inclusion) efforts are as critical to an academic institution's success as human and animal research protections, fiscal responsibility, and scientific integrity. Given that clinical neuroscience is evolving rapidly and

the diversity among medical school applicants, matriculants, and graduates is growing, embracing and achieving diversity in the ANA and academic neurology is critical to our success. In this document, we will outline some of the areas that need urgent attention and then the actionable steps that have been implemented.

Recent events have underscored these imperatives. The COVID-19 pandemic has generated a global health crisis. Current infection rates are on track to exceed those associated with the 1918-20 influenza pandemic that affected approximately 500 million and killed as many as 50 million.³ In this context, we have seen global increases in health and income inequality. Many countries have also had growth of diversity-intolerant political movements and increases in religious or racial violence. There is an urgent need for academia to become involved in working toward health equity and social healing. The words of biogeochemist Dr. Suzanne Pierre summarize these critical issues:

"As a scientist, I am unsatisfied with the notion that our jobs end at the university gates. As possessors and creators of new understanding, it is our responsibility to widen notions of who can be a scientist, increase access to scientific information, and transform unfair behaviors and norms within our disciplines". Suzanne Pierre PhD, (2021)⁴

Like many professional societies, the ANA does not reflect the sociodemographic composition of the American nation or indeed medicine at large. A review of ANA membership statistics

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from a 2020 survey (with the caveat of only a 13% response rate) revealed that women, LGBTQIA+, and people from the disabled community are under-represented in the ANA. In part reflecting of demographic patterns of U.S. neurologists, the ANA also currently has disproportionately low representation by groups underrepresented in medicine: Black Americans, Indigenous Americans, and Hispanic Americans (Table 1, from 272/278 participants providing race/ethnicity data). This underrepresentation is not only characteristic of the ANA but also the AUPN (Association of University Professors of Neurology), AAN (American Academy of Neurology), SFN (Society for Neuroscience), CNS (Child Neurology Society), as well as specialty neurological and neuroscience societies. Similar demographic patterns are seen in neurology/neuroscience journals and textbook editorial boards, NIH/NINDS funding and leadership. Underrepresentation also occurs in most academic neurological departments, at all levels, but particularly at senior faculty levels and within leadership positions.

In recent years, the ANA has begun to address these disparities by focusing programming and financial resources on professional development, career guidance, and skill enhancement for faculty members who are underrepresented in medicine, particularly those who are junior in rank. While this was an essential first step, the ANA is now reinforcing its commitment to evidence-based, actionable steps through new ANA programs and, by extension, our academic institutions. Over this past year, we have embarked on a large number of activities that have informed our members about issues of discrimination and equity, based not only on physical appearance but also on sex, sexual orientation, and gender identity, and physical or mental limitations. We now more clearly understand how hurtful and harmful discrimination and

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micro-and macroaggressions are for anyone who is perceived as "other". These moments of clarity cannot represent a transient phase for our organization; they must become a sustainable and durable effort. To this end, the ANA has established the concept of the "IDEAS" task force in 2020 (Inclusion, Diversity, Equity, Anti-racism, and Social justice ~ an acronym coined at the University of Rochester in 2020)⁵. Other organizations, including the AMA, AAN, NIH, and CNS, have also embarked on DEI initiatives in the wake of the events of 2020. Our efforts are tailored to meet the needs of academic neurologists in the USA. Led by Drs. Allison Willis and Lesli Skolarus, and in collaboration with the ANA Board of Directors, we have devised a set of priority areas based on ANA membership input. Below we describe some of the initiatives that will serve as the basis of a living blueprint for diversity, equity, and inclusion for the ANA.

Formation of the ANA IDEAS taskforce.

In May 2020, we published an editorial in *Annals of Neurology*~ ***Ingrained Injustice: The ANA Responds***⁶. Based on the discussions this editorial engendered, we launched a membership-wide survey based on the "Diversity Engagement Survey" (DES), which was developed and validated as a result of a collaboration between the University of Massachusetts Medical School and the American Association of Medical Colleges⁷. The DES connects engagement theory with inclusion and diversity constructs to identify institutional culture and social dynamics relating to engagement and inclusion, which have been shown to strongly predict productivity and allow the full potential of diversity to be realized.⁸⁻¹⁰ The DES has been used extensively by academic departments and universities, allowing comparison of ANA responses

to benchmarks derived from 68,401 responses from 42 institutions. A total of 278 ANA members responded to the survey invitation (13% response rate). Some informative items are described below; full survey results can be accessed at

<https://drive.google.com/file/d/1YWJCEaHLPGrECH3OSLD0IAwRLMhVQMxK/view?usp=sharing>

At the time of the survey, 69% of respondents perceived ANA engagement in inclusion and diversity efforts as favorable, less than the commonly employed benchmark of 75%. In general, ANA engagement in inclusion and diversity efforts was viewed less favorably by ANA respondents who chose not to identify their race/ethnicity and by members who self-identified as Black/African American or Hispanic/Latinx. Females rated ANA efforts less favorably than males. There were no differences in favorable ratings between age groups. Across faculty ranks, Assistant Professors, whose interactions with the ANA would have been concentrated in the years since ANA efforts to become more inclusive began, had the highest favorable rating of the ANA's diversity efforts.

Our survey revealed some compelling initial data about the state of academic neurology- 14% of respondents considered leaving their home institution, and 2% considered leaving the ANA- due to having experienced discrimination based on sex, race/ethnicity, origin, sexual orientation, or disability (Table 2). Furthermore, the lowest-ranked questions by respondents for the ANA environment were:

1. "I am valued as an individual by the ANA" (39%),
2. "The ANA seems to care about me as an individual" (54%), and
3. "I feel that I am an integral part of the ANA" (55%).

These responses suggested that the ANA may not be providing an optimally supportive milieu for all its members, particularly women and members of minority race/ethnic groups.

The results of the ANA member survey were presented at a symposium held during the ANA's first virtual annual meeting in October 2020. This symposium, entitled ***The Impact of Social Injustice on Health Outcomes and Healthcare Delivery***, also featured an expert-guided exploration of such topics as the impact of social determinants of health, adverse health outcomes for people of color, and healthcare policy. Over 700 attendees contributed ideas, criticisms, and encouragement, directly informing the framing and selection of the specific, actionable items presented here.

To gain a deeper understanding of our member's perspectives, we held three virtual town halls in January 2021, moderated by Dr. Regine M. Talleyrand, PhD, Associate Professor and Academic Program Coordinator for the Counseling and Development Program in the College of Education and Human Development at George Mason University. The 153 attendees were asked to discuss openly and to prioritize the following potential action domains, based on the findings from the membership-wide survey:

1. Addressing the Health Effects of Racism and adverse social determinants of health in Neurological Disease
2. Addressing the Pipeline for Academic Neurology Leadership
3. Education about Racism and Discrimination
4. Improving Mentorship in Academic Neurology

Qualitative and quantitative data were obtained through polling, chat, in-session comments, transcription, notes taken by the event moderator and hosts, and a post-event evaluation survey. The following five themes were consistently proposed:

1. Implementing effective cultural competency training programs
2. Broadening definitions of under-represented groups in academic neurology
3. Increasing awareness and accountability among academic neurology leaders for inequity
4. Providing support for under-represented voices in academic neurology
5. Developing academic neurology-specific action plans/steps.

Creating a Blueprint for Change: Identifying Priority Areas Within the ANA and Its Member Communities

Based on the surveys and town halls, the ANA instantiated the IDEAS Task Force, with four working groups representing the four domain areas identified as priority elements. A fifth group within the IDEAS task force was established to award research awards and an annual lectureship named for Dr. Audrey Penn, MD, former ANA President and first Black woman to serve as a director of an NIH institute.

Each working group has begun to expand on the blueprint, which can be considered a living document or agenda (see Supplementary Online Table 1). Below, we list the priority areas and the current action steps around which IDEAS members will develop resources to assist trainees, faculty, and leadership in academic neurology. The metrics that the IDEAS taskforce

will utilize to gauge progress in each of these priority areas will likely be refined as the taskforce gains experience and can incorporate best practices from other organizations.

Priority #1. Addressing the health effects of racism and adverse social determinants of health in neurological disease.

Racism, in its various forms, negatively impacts the well-being of millions of people in the U.S. Personally mediated racism is characterized by differential assumptions about the abilities, motives, and intentions of others according to their race. The resulting race-based discriminatory actions and behaviors towards others are the most readily recognizable forms of racism¹¹. Structural racism refers to "the normalization and legitimization of an array of dynamics—historical, cultural, institutional and interpersonal—that routinely advantage White people while producing cumulative and chronic adverse outcomes for people of color" ¹².

Racism, in both personal and structural forms, is considered a fundamental cause of disease, just upstream of social determinants of health (SDOH). SDOH are the conditions in which people are born, grow, work, live, and age, and the broader set of forces and systems shaping the conditions of daily life¹³. SDOH are non-clinical, non-biological, modifiable social factors that impact health. In many instances, SDOH have disproportionate negative impacts on persons from minoritized racial/ethnic groups and persons living in rural areas, leading to measurable differences in health and health care.

Numerous studies have shown worse neurological disease outcomes for socially disadvantaged populations and racial/ethnic minorities. Black and Latinx adults have higher

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rates of inadequate stroke risk factor control, greater stroke incidence, often at a younger age, and greater post-stroke disability than white people¹⁴⁻¹⁹. Stroke incidence is highest in rural areas of the U.S.²⁰. Rural Americans have higher post-stroke mortality²¹ and have experienced little initial benefit from national programs designed to improve acute stroke care^{22, 23}. Racial and ethnic minority patients with multiple sclerosis have higher odds of severe disability than their white counterparts²⁴. Patients with low socioeconomic status (SES) have higher rates of sudden unexplained death in epilepsy than epilepsy patients with high SES²⁵.

Disparities in health outcomes are in part mediated by pervasive disparities in the delivery of high-quality, effective neurological care. In stroke care, racial/ethnic minorities and rural dwelling persons are less likely to receive acute reperfusion therapies for stroke^{23, 26-29}, undergo carotid revascularization for symptomatic stenosis³⁰⁻³², or receive anticoagulants for stroke prevention in the setting of atrial fibrillation^{33, 34}. Racial/ethnic minority patients with Parkinson Disease are less likely to receive specialty neurological care^{35, 36}, are often diagnosed later³⁷, and have lower rates of deep brain stimulation than their white counterparts^{38, 39}. Similarly, racial/ethnic minorities are less likely to receive MS-related mental health or rehabilitation care⁴⁰. In epilepsy care, racial/ethnic minorities have lower surgery rates for refractory temporal lobe epilepsy^{41, 42}.

The underlying causes of these disparities are complex and non-trivial. Philip Alberti, PhD, the AAMC senior director for health equity research and policy, has summed up the challenges in improving health care disparities: *"Insurance does not equal access. Access does not equal utilization. Utilization does not equal quality, and quality does not equal equity."*⁴³ Common

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themes that characterize the barriers to high-quality neurological care include inadequate access to specialty neurological care, mistrust in the health care system, lower health literacy, poor patient-provider communication, and provider bias⁴⁴⁻⁴⁶. Structural and societal barriers to care access must be addressed on a policy level, including solutions to address the growing rural-urban disparities in care access resulting from rural hospital and practice closures⁴⁷.

The most upstream causes of disparities and health inequities must be addressed on a societal and policy level to be most effective; however, as neurologists, we have the opportunity and responsibility to address mechanisms and mediators of inequities within our purview. These include (1) access to care, (2) community engagement and trust, (3) provider bias and communication behavior, and (4) the conduct of neurological research.

Access to neurological care and treatments

Minority and rural populations generally have lower utilization of outpatient neurological specialty care for common chronic neurological conditions³⁵. Access to neurological care and treatments remains a major challenge in underrepresented patient populations, contributing to worse health outcomes in these patient populations. The recent advances of telemedicine, accelerated by the COVID-19 pandemic, have revolutionized the provision of neurological care. Telemedicine has permitted the continuity of care⁴³ for chronic neurological disorders and has been adopted by patients of all ages⁴⁸. The expanded use of telemedicine in neurological care may increase access among underrepresented minorities and among rural dwellers who live in health professional shortage areas (HPSAs). While the advancement of telemedicine provides an opportunity to increase access to specialty care for racial/ethnic

minority populations, it is accompanied by new challenges for socially disadvantaged patient populations. Broadband and computer access and digital literacy, remain a barrier to the effective deployment of telemedicine in underserved communities and will need to be addressed to provide equitable care through this platform⁴⁹. Legal barriers related to the interstate physician licensing process must be addressed beyond the duration of the COVID-19 pandemic, and parity of reimbursement for telemedicine visits should be sustained⁵⁰.

Action steps: As the organization representing academic neurology, the ANA will assist Neurology departments in identifying best practices for increasing access to neurological treatments in historically excluded and underserved populations. These could include policy, community, provider, and patient-level interventions. We will advocate for the expanded use and allocation of resources for accessing and navigating the health care system for neurological care, including culturally competent social workers, transition guides, and case managers. Similarly, language services must be consistently available for non-English speakers and deaf and hard-of-hearing patients.

We encourage advocacy by the ANA and our home institutions to support the parity of reimbursement for telemedicine visits. Telemedicine platforms should be designed to be user-friendly, and techniques developed and refined to quantify the neurological examination.

Metrics:

1. Through the regular surveillance of the literature, assess and use ANA platforms to share best practices for successful efforts to reduce neurologic care disparities.
2. Measure advocacy efforts to increase resources to address the social determinants of health.

3. Measure in aggregate patient and provider satisfaction with academic neurology telemedicine and the sustained impact of this platform on receipt of guideline adherent care.

Community engagement and trust

Successful and effective patient care is contingent on trust between patients and providers and the organizations they represent⁵¹. Mistrust in the healthcare system among racial/ethnic minorities is pervasive⁵². Reasons for mistrust are multifactorial and are rooted in historical mistreatment of racial/ethnic minorities in medical research, recurrent experiences of discrimination in everyday life⁵³, and negative experiences in the healthcare system⁵⁴. For example, in a recent survey, 32% of African-American respondents indicated that they have personally experienced racial discrimination when going to a doctor or a health clinic⁵⁵.

Mistrust and perceived discrimination are common causes for treatment non-adherence and delay or avoidance of care^{55, 56}.

Community engagement by academic institutions is needed to build trust in the health care system and providers. Such engagement of underserved communities may improve the quality of care and foster trust, resulting in opportunities to reach minority patient populations for educational efforts and participation in research studies. In stroke care, there have been several examples of community outreach programs that have resulted in increased health care knowledge and utilization of services among racial/ethnic minorities, for example, the D.C. Angels Project, the Beauty Shop Stroke Education Project, CEERIAS, and Stroke Ready⁵⁷⁻⁶⁰

However, these are single-site interventions; broader engagement and investment in minority communities are needed.

Action steps: We will use ANA working groups to develop resource toolkits and use the ANA platforms to provide Neurology departments with best practices for local community outreach and the building of lasting partnerships with community leaders and organizations, including faith-based or civic organizations, schools, or minority-owned businesses. We will promote the assessment of trust in the healthcare system and perceived discrimination during the receipt of neurological care in academic centers, using validated scales collected during patient care encounters. These data will help Neurology department leadership and providers understand the extent to which negative interactions create and barriers to receipt of quality care, sustain disparities in outcomes at the institutional and national level.

Metrics:

1. Perform ANA surveys to assess the impact of community outreach and engagement programs and community health workers within academic neurology departments.
2. Identify, combine, and collate departmental surveys of patients' level of trust in the healthcare system and perceived discrimination during in-/outpatient visits, to provide an aggregate picture for academic neurology.

Provider bias and communication behavior

Communication is a critical aspect of a trustful patient-provider relationship and key to numerous care quality indicators, including patient-centered clinical decision-making and

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patient satisfaction. Despite ongoing efforts to increase diversity among neurological health care providers, most racial and ethnic minority patients will find themselves in race-discordant encounters with their providers (e.g., white clinician and racial/ethnic minority patient). Patient-provider communication in race-discordant pairings tends to be less patient-centered and have lower patient ratings of participation in decision-making than in race-concordant ones⁶¹. Implicit racial bias is pervasive in the U.S., including among physicians and medical students⁶²⁻⁶⁴, and may affect clinical triaging, care quality, and decision-making in neurological care⁶⁵⁻⁶⁷. Implicit bias and stereotyping by providers also result in less patient-centered dialogue and lower confidence ratings in the physician by black patients^{63, 68, 69}.

Effective communication can be learned. Communication training, if implemented effectively, provides formal strategies to improve the patient-provider relationship, conveying skills and behaviors founded on critical elements of successful communication (Partnership, Empathy, Apology/Acknowledgement, Respect, Legitimization, and Support - PEARLS). Likewise, implicit bias can be "unlearned". Engaging implicit bias is most successful if it occurs in a non-threatening and non-accusatory environment. The willingness of providers to acknowledge and address their own implicit bias is an essential first step (<https://implicit.harvard.edu/implicit>); however, implicit bias training alone is known to be insufficient. Tools and resources to address unconscious attitudes are readily available from several online sources (<https://equity.ucla.edu/know/implicit-bias>). Of note, while implicit bias training and multifaceted prejudice habit-breaking interventions are effective⁷⁰; however, debiasing diminishes over time. Thus, in order to achieve long-lasting bias reduction, single-sessions and one-time

interventions are unlikely to be sufficient, and repeat exposure to evidence based habit-breaking interventions will be necessary to achieve sustained effects⁷¹.

Action steps: The ANA will encourage the use and provide access to formal and informal training sessions and materials for communication behavior and implicit bias training, habit breaking interventions, in Neurology departments in the form of in-person/online courses, or web-based modules.

Metrics:

1. Use ANA surveys to assess the availability and completion of formal and informal offerings of communication and implicit bias training within academic neurology departments.

Participation of women and racial/ethnic minorities in neurological research

Women and racial and ethnic minorities remain underrepresented in neurological research, despite recent focus on increasing recruitment by funding agencies. A recent editorial highlights the markedly disproportionate enrollment rates for dementia trials, i.e. only 10% of participants in the Alzheimer's Disease Cooperative Study (ADCS), and only 3.2% of participants in pharmaceutical trials were non-white⁷². The underrepresentation of women and minorities in clinical trials not only obfuscates the efficacy of neurological treatments and therapies in underrepresented groups, resulting in a selection bias of treatments that are most effective in whites, but may not have equal efficacy in minority populations. For example, recruitment of people of color into contemporary disease-modifying M.S. drugs trials was so

low that one cannot determine their efficacy and safety in these patient groups⁷³; this may contribute to differential responses to disease modifying therapies in M.S. care in minority populations⁷³⁻⁷⁶.

Action steps: We will utilize ANA committee structures to advocate that neurology clinical trials and epidemiological studies should be designed in such a manner as to encourage and facilitate the enrollment of women and racial/ethnic minorities. Previous attempts to increase enrollment, including community outreach or the use of community advisory boards to increase interest, are likely insufficient based on the continued low enrollment. Additional steps such as providing interpretation services, transportation, child-care, financial compensation, and minimizing the time required to participate or using virtual platforms for visits may be necessary. The building of trust between investigators and potential study participants will require community engagement on an institutional level, since mistrust in the medical community remains a prominent barrier to recruitment of minorities^{77, 78}. The design of clinical studies should consider the social determinants of health in the selection of appropriate trial participants^{72, 79}. Budgetary considerations to meet these needs must be addressed.

Metrics:

1. Assess and promulgate the percent of participants who are women and individuals from minority race and ethnic groups, non-college educated in clinical trials and clinical research published in ANA journals.

2. Assess the availability and completion of formal and informal offerings of training to enhance participation within investigator-initiated clinical research in academic neurology departments.

Health Disparities research in neurology

It is unlikely that merely increasing the proportion of underrepresented minorities in clinical and epidemiological studies will be sufficient⁷⁹. The causes of disparities in neurological conditions and care all too often remain hidden, because the data used to describe the presence of the disparity lack important variables describing the environmental, social, behavioral, and biological contributors to health disparities. As an initial effort, clinical trials and epidemiological studies should begin collecting information on social determinants of health, including education, access to health care, health literacy, language, neighborhood characteristics, and perceived discrimination, as these may be causes, confounders, or mediators of observed disparities⁷⁹. Similarly, the understanding of implicit bias, communication behavior and stated preferences, will require social and behavioral science methodologies not traditionally employed in neurological research⁴⁴. Research aimed at addressing disparities in research participation is frequently disjointed and lacking cross-institutional collaborations and efforts. This commonly results in ineffective recruitment, lack of standardized methodologies, and limitations in the generalizability of study results.

Action steps: The ANA will advocate for the collection of data on SDOH relevant for disparities in neurological research studies. Similarly, we advocate for the adoption of methodologies needed to address care disparities in neurological research. We call for

increased efforts to foster cross-institutional collaborations to achieve robust study design, facilitate patient recruitment, and enhance the validity of study results. The structural implementation of a network of sites addressing disparities in neurological disease care, similar to NIH StrokeNet for clinical stroke trials, would be desirable to accelerate such collaborative efforts.

Metrics:

1. Number of research studies collecting information relevant to understanding social and environmental factors.
2. Number of cross-institutional efforts to study disparities in neurological conditions.

Priority #2. Addressing the Pipeline for Academic Neurology Leadership

Leadership education and recruitment of neurology leaders committed to DEI efforts

Based on our membership survey many underrepresented ANA members do not feel that they "belong" in the organization, cannot advance into leadership, and do not feel appreciated. To create a solution, we will focus on leadership education and the recruitment of neurology leaders who are committed to DEI efforts. The IDEAS taskforce has embraced the concept of **allyship** as a mechanism to strengthen the diversity of ANA leadership. Allyship is the practice of emphasizing social justice, inclusion, and human rights by members of an in-group, to advance the interests of an oppressed or marginalized outgroup.

Action steps: The ANA will develop and disseminate guidelines for academic search committees and hiring procedures examine whether leadership candidates are committed to recruit, promote, and mentor individuals from minoritized groups as a required skill for leading academic neurology into the future.

Metrics:

1. Collate and aggregate information on a voluntary basis about how the leadership of academic departments recruit, promote, and mentor individuals from minoritized groups. These will be incorporated into the efforts of the ANA's Professional Development Committee as series of best practices.
2. Assess the identification and recruitment of ANA committee members, and officers on a regular basis to ensure equitable selection procedures.
3. Provide demographic statistics regularly for ANA officers, committee members, awardees, and speakers at annual meeting.
4. Voluntary and anonymous pre/post implicit bias assessments for ANA recruitment efforts, e.g., editors-in-chief of our journals, and officers.

Promoting allyship for academic leaders in neurology

Allyship is "a strategic mechanism used by individuals to become collaborators, accomplices, and co-conspirators who fight injustice and promote equity in the workplace through supportive personal relationships and public acts of sponsorship and advocacy. Allies endeavor to drive systemic improvements to workplace policies, practices, and culture "⁸⁰. There are several practical steps that an academic leader can take to strengthen allyship. These include:

See something, **Say** something

Advocate for diversity at the table

Build a community of allies

Insist on a diverse candidate slate

Share knowledge and **Push** for positive organizational change

Sponsor marginalized faculty and staff

Seek dialogue and **Accept** feedback

Action Steps: The ANA will provide support programming on faculty recruiting and allyship during our annual meeting and provide ongoing notifications throughout. Topics to be included are faculty diversification and development through measures such as dedicating funds for diverse hiring, using evidence-based job advertisements (e.g. effective and inclusive language), adopting robust recruitment practices (e.g. to scientific and professional societies and NIH/IRACDA [Institutional Research and Academic Career Development Award] Institutions) that increase the diversity of the applicant pool, requiring candidate statement applications pertaining to skills and past contributions to diversity efforts that are scored criteria in the standard rubric used for evaluation during the hiring process.

Metrics:

1. Assess the steps in developing an ANA recruitment "check-list" for academic neurology faculty and trainee recruitment that incorporates not only professional issues such as research and clinical care, but extends to the personal, family and mentoring needs of the individuals being recruited.

2. Complete an annual poll of ANA membership pre- and post-implementation to assess changes in diversity, including questions on community DEI efforts, microaggressions by colleagues, and hiring/enrollment/recruitment changes that have been seen.

Evidence-based Implicit bias training.

Most academic institutions have developed educational vehicles in their attempts to reduce or eliminate implicit bias in hiring practices. These include online modules, lectures, and written materials. Current implicit bias training increases awareness, an important first step, but does not change discriminatory behaviors, in part because activation of prejudicial attitudes and stereotypical beliefs occurs spontaneously and subconsciously. Social psychology research suggests that increased awareness is not sufficient to change discriminatory behaviors, rather the habitual character and automatic nature of implicit bias associated discrimination is more likely to respond to concrete, habit-forming training. Bias reduction can work in practice through habit training. A study at the University of Wisconsin-Madison compared 46 departments who received a gender-bias-habit-changing intervention as a 2.5-hour workshop to 46 control departments and observed increased awareness, motivation, self-efficacy and action for engaging in gender equity promoting activities, and greater diversity in new hires⁸¹.

Action steps: As leaders of the ANA IDEAS program, we plan to build on evidence-based strategies for reducing implicit bias (i.e., individuating, perspective taking, stereotype replacement, contact and counter-stereotypical imaging). These training programs will be made available through the ANA, and their ability to outperform current approaches for

reducing discriminatory behaviors in research, education and clinical practice will be measured using the most rigorous scientific methods.

Metrics:

1. Encourage and make available the use of validated measures to identify implicit bias, evidence-based strategies to reduce implicit bias.
2. Maintain a database of sex and race/ethnicity of senior academic positions in Neurology and in ANA leadership. This will allow for the monitoring of trends and the publication of the data will increase awareness of changes in pipeline for such leadership positions.

Priority #3. Education about discrimination

As leaders of academic neurology, we should become better educated about the issues of social justice and discrimination, and should be committed to the principles of inclusion, equity, and diversity. It is important that we in academic neurology, and the ANA specifically, focus on education for ourselves as leaders, and for our faculty and trainees.

"Ableism" training.

Ableism is the bias that people may have towards those from the disability community and results in discrimination in favor of able-bodied people. Ableism is anything that devalues a person based on disability, whether that disability is visible or not. Frequently encountered examples of ableism in the workplace include having an able-bodied individual invade a disabled individual's personal space to physically assist them — often touching them —

without being solicited or welcomed, or, questioning a disabled individual about personal matters related to their condition. Ableism is destructive to the self-esteem of the disabled individual, and it is harmful to the workplace in general. It often denies the disabled person the autonomy they need and the right to control their own body or privacy.

Action steps: The ANA will develop guidelines/recommendations and make available to all academic departments that they should conduct training in the concept of ableism and should follow the principle of embracing difference rather than hiding or disdaining difference. Departments will be encouraged to partner with their institutional resources, e.g., Disability Services in the Office of Equal Opportunity and Affirmative Action Programs, or the equivalent office.

Metrics:

1. Measure the use of ANA-developed resources for academic departments to improve training in ableism. These will be incorporated into the efforts of the ANA's Professional Development Committee.

Education in sexual orientation and gender identity.

Understanding the status and well-being of sexual and gender diverse populations is critically important for the creation of a more diverse and equitable organization. A recent report on LGBTQIA+ people from the National Academies of Sciences, Engineering, and Medicine describes epidemics of depression, substance use, violence, homelessness, and other adverse outcomes driven by the discrimination and social and economic marginalization that

many from this community experience⁸². Efforts to include and affirm LGBTQIA+ people as patients, employees, and colleagues need to be ever evolving and adaptable.

Action steps: The ANA will encourage all leaders in academic neurology to promulgate knowledge within their institutions of the medical, legal and cultural issues facing the LGBTQIA+ community. Such training should be based on the principle of embracing similarities and differences rather than hiding or disdaining difference.

Metrics:

1. Survey ANA membership on a regular basis on attitudes and ANA culture using selected questions from the LCME situational survey received from all medical students annually.

Priority #4. Improving Mentorship in Academic Neurology

Training for academic neurology mentors and mentees.

Numerous studies show the critical importance of mentoring in career development and highlight the increasing trends towards "team mentoring" in academic neurology^{83, 84}. We believe that effective mentorship early on is essential to building the **pipeline** of academic neurologists, and a vital way of ensuring the recruitment and retention of those from under-represented groups.

One potential pitfall of mentoring programs is not recognizing the dynamic nature of mentorship programs, and not including a clear set of expectations for both mentees and mentors. Along with training of faculty to serve as effective mentors, a mentorship program should also provide education and tools for mentees to ensure they gain the most out of the mentorship relationship. Under-represented groups often lack formal and informal opportunities for mentorship, and are unaware of the written and unwritten rules that influence success in academic medicine⁸⁵. Many also face unique societal and financial constraints to free pursuit of traditional career paths in neurology and neuroscience. Under-represented groups in medicine may require unique mentoring strategies, even though they are not monolithic.

The COVID pandemic has shown that professional interactions- telemedicine, conferences, clinical research- can be successfully conducted remotely. This potentially augurs a new era of remote mentoring for academic neurologists, allowing for the "democratization" of mentoring so that neurologists in smaller institutions or in a LMIC (Low-to-Middle Income Country) can have access to experienced mentors in research-intensive institutions. Virtual settings also allow for greater access to mentoring for academic neurologist/neuroscientists who are unable to attend national or international conferences due to financial constraints, clinical responsibilities, or family responsibilities. As such, these platforms may lead to greater diversity in the field, by increasing the access to groups historically underrepresented in academic medicine. Virtual mentorship opportunities may also expose trainees and early career faculty to non-traditional areas of research, provide access to resources outside of their own institutions, and support career development sponsorship by mentors who either share

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their backgrounds as an under-represented group or have the skills necessary to effectively mentor diverse groups of individuals. Furthermore, these opportunities can also be extended to pre-medical students, Masters and PhD candidates, as well as medical students.

Action steps. ANA will provide mentors and mentees training to ensure successful mentoring partnerships and encourage Neurology departments to take advantage of such training within their institutions. The ANA will provide mentee neurologists/neuroscientists with informational sessions to identify their strengths and skills, set expectations for a mentoring relationship, identify career goals and potential barriers to achieving those goals, and develop skills pertinent to effective communication with mentors. In addition, the ANA will provide mentors with training, including techniques shown to be successful in the mentoring of scientists from underrepresented groups. Below are some considerations we will use to guide training to maximize the effectiveness of a mentoring relationship:

- a) Provide tools to assess the extent to which a mentor is suited to help a particular mentee achieve one or multiple goals.
- b) Provide tools which allow both parties to clearly state their goals for the mentorship relationship (i.e.: advice on career development, work-life balance, academic productivity, development of research skills, sponsorship, and promotion).
- c) Provide resources that allow mentees to identify their own strengths and skills prior to beginning a mentoring relationship.
- d) Provide tools for research performance feedback, and systematic evaluations of mentee progress towards research and career goals.

- e) Provide tools to identify potential barriers for mentees to achieve their goals and strategies to mitigate those barriers (including institutional, financial, or training barriers).

Several professional societies have successfully deployed e-mentoring programs, providing a framework the ANA can use to reconstruct its own e-mentoring program. As one example, the NIH has developed resources, both in person and virtual through the National Research Mentoring Network (NRMN)^{86, 87}, that implement and disseminate innovative, evidence-based best practices to improve mentoring relationships at U.S. institutions⁸⁸. NRMN connects highly knowledgeable and skilled mentors with motivated and diverse mentees, ranging from undergraduate students to early-career faculty, and facilitates long-term, culturally responsive interactions between them⁸⁹. Overall participation in the six NRMN grant writing/coaching programs is highly diverse; one third of participants are Black scientists and more than half are female. Guided by these and other successes, the ANA will restructure and expand our e-mentoring program to provide mentorship teams to students, trainees, and early faculty, which will encompass a diverse group of faculty members with different backgrounds, skills, and in different levels of training. Diverse mentorship groups have been proved to be successful in the advancement of minorities in the corporate world⁹⁰. We hope that a similar approach will ensure that the ANA significantly impacts career development for academic neurologists and neuroscientists with diverse backgrounds.

Metrics:

1. Through surveys, ANA will evaluate uptake and use of ANA mentoring training and participation in the ANA e-mentoring program.
2. Through surveys, the ANA will evaluate the effectiveness of e-mentoring program participation through career- stage-appropriate changes in competency relating to research skills (grant writing, project management, collaborative interactions), academic presentation and public speaking, professional development (networking, leadership positions, promotion), and scientific and educational achievements (acceptance into doctoral/post-doctoral programs, publications, awards, grants).
3. The ANA will assess mentee and mentor satisfaction with the mentoring program.

Summary:

The ANA is committed to supporting our members and member departments in progressing towards measurable changes in diversity, inclusion, and equity across the tripartite mission of clinical care, research, and education/career development. This is an unprecedented time for our society, with social tensions magnified by the health and economic crises generated by COVID-19. It is also unarguably a time when academic neurology can, and must, provide leadership in DEI issues. As a small volunteer organization, we cannot take on all related DEI issues that affect academic neurologists. The elements that we have selected represent what we believe to be the initial priority areas. We at the ANA are excited to learn with you and welcome your feedback as we work together to promote DEI. We hope that adoption of at least some of the practical steps within our departments and institutions will lead to action, and eventually to change, so that faculty and staff from "other" groups can move into leadership roles and achieve the kind of career success that we keep as an aspirational goal for **all**. This

document contains the first steps in approaching these challenging issues. We will undoubtedly need to 'course correct'. The input from ANA members, particularly members of the IDEAS task force, will be critical to successfully implementing these actionable steps. Our vision for the ANA by 2025 is that our organization will be recognized as an organization that lives by these principles:

- *Embracing and celebrating our similarities and differences*
- *Educating and promoting our students, trainees, faculty, and staff*
- *Engaging in equitable healthcare delivery, research, and education*

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Table 1. ANA demographics from a survey of the membership, N=272, year=2020.		
Race/Ethnic Category	n	Column %
White/Caucasian	176	64.7
Black/African American	16	5.9
Hispanic/Latinx	18	6.6
Asian	37	13.6
Other	8	2.9
Decline to answer	17	6.3

Table 2. Respondent Characteristics—Self-reported Experience with discrimination in home academic neurological department and in the ANA survey, 2020.

Considered Leaving My Home Institution Due to Discrimination			Considered Leaving the ANA Due to Discrimination		
	n	%		n	%
Yes	39	14.0	Yes	6	2.1
No	227	81.6	No	264	95.0
Decline to answer	12	4.3	Decline to answer	8	2.9