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Elevating Equity Through California's Health Workforce Funding Processes

Final Recommendations for California's Department of Health Care Access and Information

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HCAi
Department of Health Care Access and Information

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The recommendations and views expressed in this report reflect those of the authors and do not necessarily reflect the views of HCAI, California Health Care Foundation, or The George Washington University. The authors greatly appreciate the funding support provided by The California Health Care Foundation and the engagement of HCAI throughout this project.

HCAI Department of Health Care Access and Information

Dear Reader,

I am pleased to introduce the report, *Elevating Equity Through California's Workforce Funding Processes: Final Recommendations for California's Department of Health Care Access and Information*, which outlines recommendations aimed at increasing equity in health workforce education and training programs in California.

The Department of Health Care Access and Information (HCAI) serves a key role in shaping Californians' access to equitable, quality health care throughout the state. Our health workforce development programs seek to train and support a diverse health care workforce to serve in medically underserved areas and to work with Medi-Cal members. Our wide array of pathway, scholarship, loan repayment, and grant programs help foster a culturally and linguistically diverse health workforce by eliminating barriers to education and training for medical professionals. We know that having a workforce that reflects its patient population can reduce disparities in care and improve health outcomes.

Findings from HCAI's Research Data Center indicate that California's health workforce is not as diverse as the California that it serves. Our interactive Demographic and Education Dashboards show disparities between the population's race/ethnicity and languages spoken, and that of the workforce. For example, although the percent of the workforce that speaks Spanish has increased steadily over time statewide, Spanish is the most underrepresented language in the health workforce. It is underrepresented in all six workforce categories and all nine regions in California. Similarly, Hispanic/ Latine health care workers are underrepresented across all workforce categories and regions.

HCAI seeks to reduce these disparities which are the result of systemic policies by both governmental and private actors. We sought a comprehensive review of the strategies most effective in advancing equity to apply these findings to our workforce development programs. To this end, in the Spring of 2023, we partnered with researchers at The Fitzhugh Mullan Institute for Health Workforce Equity (Mullan Institute) at The George Washington University to conduct an equity analysis of HCAI's programs with funding support from The California Health Care Foundation (CHCF). Over an 18-month period, the Mullan Institute researchers conducted a comprehensive review of HCAI programs and a national scan of best practices relevant to HCAI's equity goals, resulting in 19 recommendations that HCAI can implement to strengthen the impact of our health workforce development programs through our award making and administrative processes.

We believe that the report will be of interest and use for a broader audience. For example, many of the recommendations emphasize strategies to remove financial, geographic, institutional, and other barriers to health workforce training resources and opportunities. Removing these barriers is critical to ensuring that all Californians have access to fulfilling careers across the various health care professions as well as the economic mobility promised within these career paths. Moreover, the report emphasizes that

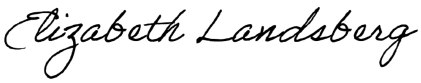
training a workforce that reflects the diversity of Californians is an important factor in addressing social determinants of health, reducing health disparities, and improving health outcomes.

I look forward to ongoing conversations with the California Workforce, Education, and Training Council; our numerous stakeholders and partners; and our internal staff as we work to leverage these recommendations across our programs and monitor and evaluate their impact.

If you'd like to follow our work on the recommendations in this report, receive updates from our Research Data Center, learn more about our funding opportunities, or learn more about other HCAI programs and initiatives, you can subscribe to our mailing list.

My thanks to the team at the Mullan Institute for embarking on this project with us, to CHCF for their generous support, and to our incredible team at HCAI for their work on this project and for their daily commitment to supporting access to equitable, quality care for all Californians.

Sincerely,



Elizabeth A. Landsberg

Director, Department of Health Care Access and Information

Contents

Executive Summary

The California Department of Health Care Access and Information (HCAI) envisions a healthier California where all receive equitable, affordable, and quality health care. Yet, health disparities and inequities in access to care persist across the state. Although larger systemic issues are the main cause of these disparities, the health workforce plays a key role in how health policies are carried out and how they impact access to care and health outcomes. To aid in the development of a health workforce to advance health equity, HCAI has adopted three priority workforce equity goals:

1. Diversifying California's workforce so that it reflects the California that it serves
2. Increasing health workers in medically underserved areas; and
3. Increasing health workers serving Medi-Cal (California's state Medicaid program) members

HCAI seeks to operationalize these goals through its administration of a wide range of programs, including programs that provide individual scholarships, loan repayments, and grants to institutions educating the health workforce. To maximize their impact, HCAI wanted to assess whether the processes used to award funding and manage these programs were also supportive of the priority equity goals. With support from the California Health Care Foundation, the Department partnered with researchers at the Fitzhugh Mullan Institute for Health Workforce Equity at The George Washington University to develop recommendations for tangible ways to incorporate additional equity considerations into the administrative processes for HCAI's workforce programs. **The purpose of this report is to share the final 19 recommendations representing the culmination of this project.**

The recommendations are based on three phases of work: an inventory and review of HCAI's workforce development programs (Phase I); a national scan of promising practices (Phase II); and recommendation development and refinement (Phase III). Phase I comprised a comprehensive review of 29 HCAI scholarship, loan repayment, and grant programs to understand the extent to which award making and administrative processes aligned with the Department's equity goals. In Phase II, a literature review and national scan was conducted to identify best practices, promising innovations, and emerging efforts to promote equity through the funding processes, with a focus on health workforce development funding. In Phase III, learnings from Phases I and II were leveraged to develop and refine final recommendations through an iterative process of engagement with HCAI staff. The final recommendations (below) are the result of a highly collaborative partnership between GW and HCAI to ensure responsiveness to evidence-informed health workforce equity practices, internal HCAI operations, and the state policy and legal context.

A summary of final recommendations is below:

Recommendations for HCAI Operations
A.1. Conduct enhanced outreach and support to targeted organizations and communities for whom HCAI awards are intended.
A.2. Perform regular, data-driven equity audits across HCAI's program portfolio.
A.3. Conduct a formal evaluation of HCAI grant programs to assess their effectiveness in achieving stated diversity, practice, and learning objectives.
A.4. Establish baseline data reporting requirements for organizational grantees as well as for scholarship and LRP programs including demographic data and unique identifiers for all program participants/beneficiaries.

A.5. Leverage and expand HCAI's current initiatives to identify profession-specific shortage areas and regions with limited health professions education capacity, in order to guide targeted equity investments more effectively.
Recommendations for Organizational Grant Programs
B.1. Prioritize community colleges and institutions that disproportionately serve individuals from underrepresented and disadvantaged communities in the review process.
B.2. Collect demographic data of program personnel and institutional leadership as part of the application and administrative reporting mechanism for all grant awardees.
B.3. Modify and weight institutional strategies for enrolling and supporting trainees from underrepresented communities based on the available evidence as it pertains to recruitment, admissions, and student retention/belonging; Require supporting documentation.
B.4. Modify and weight institutional strategies for encouraging graduates to provide clinical services in areas of unmet need, and expand metric to all organizational grants. Require supporting documentation.
B.5. Make minor evidence-informed modifications and require supporting documentation for strategies to implement culturally responsive care training into the program operations.
B.6. Promote geographic representation of organizational awardees in the award making process.
Recommendations for Scholarship Programs
C.1. Give funding priority to applicants who: are prior recipients of an HCAI scholarship still completing their education; attended or are using the scholarship to attend at least one year/12 credits of community college; participated in the Health Professions Pathway Program.
C.2. Explore the use of an objective, place-based composite measure to assess and score disadvantaged background.
C.3. Substitute all-or-nothing language scoring for a stackable points system; modify scoring points and weights to reflect language ability and ensure English-only speaking applicants otherwise eligible for awards are not disproportionately excluded from receiving them.
C.4. Reduce the scoring weight for graduation date scoring criteria.
C.5. Reduce scoring weight for previous volunteerism/work history in/with a medically underserved area/populations.
C.6. Give preference to applicants from geographical areas with shortages in the profession for which a scholarship is being sought.
Recommendations for Loan Repayment Programs
D.1. Expand funding priorities to all LRP programs to include: Prior LRP recipients; Prior HCAI scholarship recipients; Health Professions Pathway Program beneficiaries.
D.2. With the exception of program-specific authorization provisions, modify and standardize LRP scoring metrics to focus on those that most strongly align with the equity aims of LRPs. Recommended metrics are: Severity of unmet need; Service to Medi-Cal; Disadvantaged background; Language(s) spoken; Cultural competence.

Recommendations are divided into four sections based on HCAI program area: Operations, Organizational Grants, Scholarships, and Loan Repayment. Generally, recommendations seek to promote equity in HCAI's health workforce development program funding by:

- Modifying funding policies and practices to reflect evidence of effectiveness
- Bolstering HCAI infrastructure for future equity analyses and subsequent decision-making
- Holding organizational awardees accountable for equity practices and outcomes
- Addressing potential unintended consequences of pre-existing practices and policies that may detract from equity goals
- Creating a stronger system of supports across the health professions training pathway through program coordination and synergy

Each recommendation can advance equity individually, but their effect is amplified when built on and complemented by one another, much like the coordinated efforts needed to address societal inequities and health disparities. Even so, a recommendation's inclusion in this report doesn't mean it can or should be fully or immediately implemented. Real world contextual factors including resource constraints, staff capacity, technical complexity, and statutory requirements must be taken into account and may necessitate the modification of recommendations or the prioritization of some over the others. As such, it may be productive to consider a phased approach to implementation, which would allow HCAI to provide more immediate improvements where feasible as they work towards sustainable and higher-impact improvements.

The recommendations in this report are evidence and data-informed wherever possible, but not without limitations. First, the strength of the evidence for what works best to meet HCAI's equity goals varies. For example, little research has been done to conclusively link health professions education and training characteristics to long-term practice outcomes,[1] making it difficult to predict clear returns on investment for the recommendations. Second, performance of quantitative analysis based on program administrative data was beyond the scope of this project. Therefore, recommendations do not reflect geographic, demographic, or other trends that may be gleaned from applicant and awardee population profiles to better identify programming equity issues. For both of these reasons, it will be critical to monitor the effects of any of the recommendations that are implemented and, when needed, to modify them in response.

The recommendations in this report reflect HCAI's ongoing commitment to advancing health equity in California and represent the next step forward in aligning the department's values with its policies and practices. Though not all recommendations are expected to be implemented in the short-term, taken together, they present a blueprint of evidence-informed strategies and steps for elevating equity in state health workforce funding into the future.

[1] Erikson C, Ziemann M. Advancing Social Mission Research: A Call to Action. *Acad Med*. 2022;97(1):30-36. doi:10.1097/ACM.0000000000004427

Preface

Workforce Solutions are Required to Address Persistent Health Disparities and Inequities in California

California's almost 40 million residents experience dramatic health disparities by race, ethnicity, insurance status and geography.[1–3] The drivers of health disparities are complex and largely based in structural factors, one of which is the lack of access to quality health care. Although larger systemic issues are the main cause of these disparities, the health workforce plays a key role in how health policies are carried out and how they impact access to care and health outcomes. Yet workforce shortages, geographic and specialty maldistribution, and an underrepresentation of clinicians who reflect the racial, ethnic, cultural, and linguistic diversity of California communities have created significant barriers for the states' residents.[4]

Examples of Health Workforce Challenges in California

- 7 million Californians, most of whom are members of minority sub-groups, live in Health Professional Shortage Areas (HPSAs).[4]
- Hispanic/Latine and Black workers are very underrepresented in California's health workforce, especially among new health professions graduates requiring post-secondary education, indicating that disparities in the workforce will continue. Asian and Native Hawaiian/Pacific Islanders are underrepresented in behavioral health professions.[5]
- Nearly 30% of California's population speaks Spanish at home,[6] yet it the most underrepresented language in California's health workforce.[7]
- In 2019, less than 30% of California's primary care providers served at least 150 Medi-Cal members.[8]

The California Department of Health Care Access and Information (HCAI) envisions a healthier California where all receive equitable, affordable, and quality health care. As part of its work to realize this vision, HCAI improves health care access by developing the health care workforce through scholarships, loan repayments, and grants to institutions and organizations educating and preparing the health workforce (Table 1).

Unprecedented Investments Present Opportunities to Center Equity in HCAI Aims

Over the past five years, California has committed an unprecedented amount of funding for health workforce development and has signaled significant additional investments in coming years.[9] Much of these funds have been or will be distributed via the expansion and development of programs operated by HCAI. In light of this accelerated time of program investment and expansion, HCAI identified three priority equity goals for HCAI programs moving forward:

HCAI Equity Goals for Health Workforce Development Programs

1) Diversifying California's workforce so that it reflects the California that it serves
2) Increasing health workers in medically underserved areas; and
3) Increasing health workers serving Medi-Cal (California's state Medicaid program) members

To optimize the use of public funds in accordance with these goals, the California Health Care Foundation (CHCF) which is committed to helping assure access to care for all Californians, provided

funding to critically analyze HCAIs programming and identify opportunities to improve program design, eligibility criteria, scoring criteria and processes, and contract/award requirements. In 2023, The George Washington University's Fitzhugh Mullan Institute for Health Workforce Equity (Mullan Institute) contracted with CHCF to work with HCAI to develop recommendations for tangible ways to incorporate additional equity considerations in the grantmaking process.

Table 1. HCAI Loan Repayment Programs, Scholarships, and Organizational Grant Programs*

Loan Repayment Programs (LRP)	Scholarships	Organizational Grants
Purpose: Offer financial support to health professionals who agree to provide direct patient care in medically underserved areas.	**Purpose:** Provide students with support to finance their education while accepted or enrolled in a health professions program. Students can apply and may be awarded in exchange for a period of direct patient service to a medically underserved community upon completion of their education	**Purpose:** Provide grant opportunities for educational institutions that support the education and training of mental health and primary care health professionals. These grants focus on increasing the number of underrepresented students and residents receiving training, increasing access to quality care in areas of unmet need. HCAI also provides grants to organizations that introduce students to health career options through conferences, workshops, and health career exploration.
LRP Programs: Bachelor of Science Nursing California State County Medical Services Program Licensed Mental Health Services Provider Education Program Licensed Vocational Nurse Steven M. Thompson Physician Corps	**Scholarship programs:** Allied Healthcare Advanced Practice Healthcare Associate Degree Nursing Bachelor of Science Nursing Licensed Vocational Nurse to Associate Degree Nursing Vocational Nurse Train New Trainers Primary Care Psychiatry Fellowship Primary Care- Training and Education in Addiction Medicine Fellowship Behavioral Health Golden State Social Opportunities Program	**Grant programs:** Song-Brown Healthcare Workforce Training Program: ➢ *Primary Care Residency (PCR)* ➢ *Family Nurse Practitioner/Physician Assistant* ➢ *Registered Nurse* ➢ *Midwifery* Substance Use Disorder/Justice System-Involved Youth Training Substance Use Disorder Earn and Learn Community-based Organization (CBO) Behavioral Health Workforce Peer Personnel Training and Placement Social Work Education Capacity Expansion (SWECE) Psychiatric Education Capacity Expansion (PECE) Health Professions Pathways Program (HPPP) Justice-System Involvement Youth: Behavioral Health Pipeline Health Careers Exploration Program

**Program listings current as of Summer 2023; Not inclusive of all HCAI workforce programs*

A Multi-Faceted, Iterative Process Informs Development of Recommendations to Elevate Equity in HCAI's Award Processes

Between the spring of 2023 and winter of 2024, GW engaged in three phases of work, each building upon the other to inform final recommendations: an inventory and review of HCAI's workforce development programs (Phase I); a national scan of promising practices (Phase II); and recommendation development and refinement (Phase III).

The purpose of the Phase I inventory assessment was to understand how and the extent to which HCAI's current health workforce award making, and administrative processes aligned with the Department's equity goals. The comprehensive review of each of HCAI's programs (Table 1) was an important jumping off point for the project – revealing areas of strength, and also opportunities to elevate and operationalize equity goals within and across the workforce programming and award processes.

Phase II of the project was a national scan to identify best practices, promising innovations, and emerging efforts to promote equity goals through the grant making, awardee selection and contracting processes. The national scan comprised: broad strategies and real-world examples used to incorporate equity in funding processes across sectors and fields; strategies used to enhance equity in funding and programming specific to health workforce development; and a summary of the evidence for effective strategies to advance each of the HCAI equity goals.

Detailed findings and methods for Phases I and II were presented in a report provided to HCAI halfway through the project period. Strategies identified from the national scan are included as Appendix A.

In Phase III, observations and learnings from Phases I and II were leveraged to inform the development of initial recommendations for strengthening equity in HCAI workforce programming and award making, based on the Department's goals. These initial recommendations were shared with HCAI throughout the winter of 2023-24. Over the course of three months, GW and HCAI engaged in multiple feedback sessions to refine recommendations based on criteria including quality of evidence, legality and statutory obligations, implementation feasibility, and projected level of effort to implement and anticipated impact.

In preparing the recommendations presented in this report, the Mullan Institute team considered California Proposition 209, passed in 1996, and the US Supreme Court's ruling in 2023 restricting the consideration of race in college admissions. The recommendations in this report strive to advance HCAI's equity goals within the bounds of these legal constraints.

The final recommendations presented in this report are thus the result of a highly collaborative partnership between GW and HCAI to ensure responsiveness to evidence-informed health workforce equity practices, internal HCAI operations, and the state policy and legal context.

The purpose of this report is to share the final 19 recommendations representing the culmination of these three phases of work.

Recommendations are divided into four sections based on HCAI program area: Operations, Organizational Grants, Scholarships, and Loan Repayment. For each recommendation, corresponding evidence and rationale, as well as implementation considerations, are provided.

Each recommendation holds the potential to advance equity as a standalone action. However, just as multi-faceted, coordinated efforts are required to address inequities and health disparities in society, the impact of the recommendations in this report will be optimized when working in concert with one another. As such, they are meant to build off and augment one another when optimally implemented.

Contextual Factors

First, this report is intended to serve as a technical document to support HCAI in policy making and implementation. Therefore, HCAI leadership, management, and staff are the primary target audience for its contents, and the report is framed as such. However, the insights and findings presented may also prove valuable to a broader audience, including public and private funding agents and other entities developing the health care workforce. These stakeholders can leverage the report's recommendations to inform investment strategies, resource allocation, and future partnerships aimed at advancing related equity initiatives.

Secondly, a recommendation's inclusion in this report is not to suggest it can – or in some cases, should – be immediately or wholly implemented. These recommendations come from external reviewers, and we acknowledge that real-world factors on the front line must be taken into account by HCAI. We understand that HCAI will likely adapt these suggestions to align with the program's needs and resource constraints, statutory requirements, and funding parameters.

Care was taken to incorporate implementation considerations into the design of recommendations. Nonetheless, there is variation in the anticipated effort and resources that will be required to operationalize them. For example, some recommendations may present only a light lift for HCAI, such as the inclusion of additional text in a program's corresponding grant guide. Conversely, others will require additional staff capacity not currently available or necessitate resource and time-intensive backend programming and analytics.

As such, it may be productive to consider a phased approach to implementation. HCAI may find it useful to focus on one or a few recommendations as a starting point; implementing one or more recommendations for only a single program or cluster of similar programs (e.g., organizational grants with the purpose of capacity expansion); prioritizing recommendations for programs targeting specific professions in response to state health care needs; or by making awardee compliance with recommendations optional as opposed to required for a transitional period. A phased approach would allow HCAI to provide more immediate improvements where feasible as they work towards sustainable and higher-impact improvements.

Lastly, performance of a data-driven equity audit was beyond the scope of this project. Therefore, recommendations do not reflect geographic, demographic, or other trends that may be gleaned from applicant and awardee population profiles to better identify programming equity issues. The need for this analysis is reflected in Operations Recommendation A.2. Furthermore, the strength of the evidence for what works best to meet HCAI's equity goals varies. For example, little research has been done to conclusively link health professions education and training characteristics to long-term practice outcomes,[10] making it difficult to predict clear returns on investment for the recommendations. For both of these reasons, it will be critical to monitor the effects of any of the recommendations that are implemented and, when needed, to modify departmental and administrative practices and policies in response.

Recommendations Reflect HCAI's Ongoing Commitment to Equity and Present Strategies for Advancing it Now and in the Future

It is clearly in the interest of California to assure that their education and training, scholarship, and loan repayment programs promote a health workforce reflective of the great diversity of the population as well as the preparation of practitioners who will provide quality care to the State's most medically vulnerable and underserved populations. Over the years, California has implemented a wide range of creative workforce programs intended to help accomplish these goals and increase access to health care services for all Californians. The recommendations in this report represent the next step forward in aligning HCAI's organizational policies and practices with those stated equity values and goals. They are also intended to fully leverage investments of California taxpayers by strengthening accountability for equity in HCAI programming – including through expanded data collection, evaluation, and reporting. Though not all recommendations are expected to be implemented in the short-term, taken together, they present a blueprint of evidence-informed strategies and steps for elevating equity in state health workforce funding into the future.

Recommendations

Summary of Recommendations

Table 2. Final Recommendations

Recommendations for HCAI Operations
A.1. Conduct enhanced outreach and support to targeted organizations and communities for whom HCAI awards are intended.
A.2. Perform regular, data-driven equity audits across HCAI's program portfolio.
A.3. Conduct a formal evaluation of HCAI grant programs to assess their effectiveness in achieving stated diversity, practice, and learning objectives.
A.4. Establish baseline data reporting requirements for organizational grantees as well as for scholarship and LRP programs including demographic data and unique identifiers for all program participants/beneficiaries.
A.5. Leverage and expand HCAI's current initiatives to identify profession-specific shortage areas and regions with limited health professions education capacity, in order to guide targeted equity investments more effectively.
Recommendations for Organizational Grant Programs
B.1. Prioritize community colleges and institutions that disproportionately serve individuals from underrepresented and disadvantaged communities in the review process.
B.2. Collect demographic data of program personnel and institutional leadership as part of the application and administrative reporting mechanism for all grant awardees.
B.3. Modify and weight institutional strategies for enrolling and supporting trainees from underrepresented communities based on the available evidence as it pertains to recruitment, admissions, and student retention/belonging; Require supporting documentation.
B.4. Modify and weight institutional strategies for encouraging graduates to provide clinical services in areas of unmet need, and expand metric to all organizational grants. Require supporting documentation.
B.5. Make minor evidence-informed modifications and require supporting documentation for strategies to implement culturally responsive care training into the program operations.
B.6. Promote geographic representation of organizational awardees in the award making process.

Recommendations for Scholarship Programs
C.1. Give funding priority to applicants who: are prior recipients of an HCAI scholarship still completing their education; attended or are using the scholarship to attend at least one year/12 credits of community college; participated in the Health Professions Pathway Program.
C.2. Explore the use of an objective, place-based composite measure to assess and score disadvantaged background.
C.3. Substitute all-or-nothing language scoring for a stackable points system; modify scoring points and weights to reflect language ability and ensure English-only speaking applicants otherwise eligible for awards are not disproportionately excluded from receiving them.
C.4. Reduce the scoring weight for graduation date scoring criteria.
C.5. Reduce scoring weight for previous volunteerism/work history in/with a medically underserved area/populations.
C.6. Give preference to applicants from geographical areas with shortages in the profession for which a scholarship is being sought.
Recommendations for Loan Repayment Programs
D.1. Expand funding priorities to all LRP programs to include: Prior LRP recipients; Prior HCAI scholarship recipients; Health Professions Pathway Program beneficiaries.
D.2. With the exception of program-specific authorization provisions, modify and standardize LRP scoring metrics to focus on those that most strongly align with the equity aims of LRPs. Recommended metrics are: Severity of unmet need; Service to Medi-Cal; Disadvantaged background; Language(s) spoken; Cultural competence.

HCAI Operations Recommendations

Recommendation A.1.: Conduct enhanced outreach and provide additional support for targeted organizations and communities for whom HCAI awards are intended.

Rationale: The organizations and individuals HCAI awards are intended to benefit may not always be aware of or have the capacity to pursue available funding opportunities. This begs the question of how much more impact HCAI funding could have if all those eligible had equitable opportunities to access it as applicants. For example, systemic barriers may prevent small, minority-led organizations from seeking or receiving needed grant funding.[11] Historically, this has resulted in grants being disproportionately awarded to well-established institutions of privilege, despite findings suggesting that less prestigious institutions may produce a larger return on investment.[12] At the individual level, students from historically disadvantaged backgrounds may not have access to the same supports and resources as those from more privileged backgrounds, making the application process more challenging to navigate. These individuals may not even be aware of scholarship and LRP, if they are not visible within their social, educational, community, and other networks. There are many steps that HCAI can take to promote awareness of and access to grant, scholarship, and LRP opportunities among individuals from disadvantaged or underrepresented backgrounds and organizations that may be under-resourced yet have an outsize equity impact due to the beneficiaries and clients they serve.

Implementation considerations: Developing outreach and awareness strategies for HCAI programs begins with clearly defining the target communities and organizations for whom they are intended to

benefit. Then, a deeper examination of program data (Recommendation A.2.) can be conducted to determine areas of congruence and misalignment between target audiences and awardee profiles. Findings gleaned from this examination can inform targeted outreach and support strategies. While a thorough analysis of HCAI program data for these purposes is a large undertaking requiring substantial capacity, as a first step, there are existing data sources that HCAI could use to inform outreach efforts to target populations and organizations, including their in-house data dashboards and GW's Workforce Diversity Tracker.[13] For example, HCAI's Health Workforce Language Dashboard presents data suggesting a need for more robust efforts to recruit and retain Spanish speakers.[7]

After HCAI has defined its target audiences for grants, scholarships, and LRPs and identified areas for potential improvement based on HCAI data or secondary sources, targeted awareness and outreach strategies can be designed. The specifics of these strategies will differ based on identified needs, but ideas include:

- Hire or designate an HCAI staff member whose primary, protected role is that of program awareness and outreach coordinator to develop and implement related strategies.
- Establish communications channels with "high impact" equity institutions in California to promote HCAI programs and solicit applications. This could include educational institutions that serve a disproportionate amount of students from disadvantaged or underrepresented backgrounds (Recommendation B.1.), have a proven track record of producing graduates who practice in areas of unmet need yet have been underrepresented in prior HCAI awards; or can amplify HCAI opportunities through their established networks (e.g., the Foundation for California Community Colleges; the California Primary Care Association; the California Area Health Education Center).
- Conduct awareness campaigns among all communities and organizations meeting funding priority criteria (Recommendations B.1., C.1. and D.1.). For example, this may be implemented through email campaigns to all current and prior HCAI-sponsored pathway program participants, scholarship, and LRP beneficiaries, or through promotional materials at community colleges.
- HCAI staff can also promote funding opportunities in person by visiting at as many education, career, and health fairs as possible, prioritizing the types of institutions and settings listed above. "HCAI Ambassadors", prior scholarship, LRP, and grant program beneficiaries, could be recruited and paid a stipend to assist with events, discuss their experiences with prospective applicants, and provide limited technical assistance to prospective applicants.
- For organizational grants, HCAI should provide adequate notice of forthcoming funding opportunities and make application guidance and technical assistance available for potential applicants through webinars, FAQs, and potentially offers to arrange pre-application meetings with grant managers – a common offering in federal grants.

Recommendation A.2.: Perform regular, data-driven equity audits across HCAI's program portfolio.

Rationale: To assess their performance in achieving equitable delivery of funding to improving health care access and outcomes in California, HCAI must first understand the Department's current funding landscape. To do so, performance of an equity audit, based on program data, is recommended to identify characteristics and trends in awardees and applicant pools. Specifically, an equity audit could shed light on geographic concentration and dispersal of applicants and awardees (individuals and organizations), aid in the development of awardee profiles within certain programs, identify factors

associated with funding success and failure, and highlight organizations and populations that are conspicuously absent from the applicant and/awardee pools. A data-driven equity audit is critical for developing future Department equity strategies and outreach best matched to population needs and therefore most likely to have the intended impact. It can also be used in the development of internal equity performance measures and targets.

Implementation considerations: Performance of a comprehensive equity audit may be resource and time intensive. For this reason, while awardee data should be captured annually, an equity audit performed once every 3-5 years is likely sufficient for informing Department processes and policies. If capacity for an equity audit across HCAI's funding portfolio is not feasible in the short-term, it could be conducted for a subset of programs (e.g., grants OR scholarships OR loans; programs internally identified by HCAI staff as high priority). A core element of the audit is analysis of administrative program data, for which demographic characteristics of awardees or their trainees should be a variable of interest. In the future, an equity audit could be enriched by incorporating a qualitative needs assessment with targeted stakeholders to understand current awareness and understanding of HCAI funding opportunities, as well as perceived barriers.

Throughout this report, areas of potential inquiry for an equity audit are provided. These include but are not limited to:

- Institutional characteristics of organizational grant awardees: Where are they located, and how do those locations map to high need areas (Recommendation A.5)? How do awardees break down by ownership type, i.e., public, private nonprofit, private for-profit? Are the institutional types specified in Recommendation B.1 represented in awardee pools? To what extent?
- Do awardee institutions also provide direct clinical services (e.g., academic health centers)? If so, are they included as a grant program training site? What is their payer mix, and how does that payer mix align with HCAI's goal to support the provision of care to Medi-Cal members?
- Individual characteristics of scholarship and LRP recipients: Where are they located, and how do those locations map to high need areas (Recommendations A.5., C.2., D.2.)? What is the linguistic, racial, and ethnic composition of HCAI individual awardees across and within programs? Which sub-groups are underrepresented? Overrepresented? To what extent are community college students represented?

Recommendation A.3.: Conduct a formal evaluation of HCAI grant programs to assess their effectiveness in achieving stated diversity, practice, and learning objectives.

Rationale: To understand whether and to what extent HCAI grant, scholarship, and LRP programs are effective in achieving intended equity goals, they must be evaluated. Evaluation is important for assessing processes and short-term outcomes, though its true value would be in understanding programs' influence on long-term outcomes, like practice in underserved areas and workforce composition, and their broader impact. Findings from a formal evaluation process for one or more HCAI programs could be used to inform future funding criteria and decisions, establishing awardee performance benchmarks, and identifying effective strategies for achieving equity aims (which can then be incorporated as standard program requirements).

Implementation considerations: Assessing program effectiveness and impact – whether grants, scholarship, or LRPs – is a significant undertaking predicated on the ongoing, standardized reporting and

collection of grantee/awardee data. The heterogeneity across HCAI's funding portfolio justifies targeted program evaluations based on HCAI's priority criteria. For example, HCAI may wish to prioritize evaluation of programs receiving the greatest amount of funding, since they represent significant areas of state investment. Alternatively, programs could be targeted for evaluation based on policy relevance, type of programming (e.g., expansion grants), target profession, years in operation, data availability, etc.

Establishing whether HCAI programs are ultimately effective at advancing equity aims of increasing health workforce diversity and access to health care in areas and with populations experiencing unmet need necessitates individual level, longitudinal data for grant program participants as well as scholarship and LRP participants (Recommendation A.4). This may require the assignment of unique identifiers for all participants and awardees, ongoing efforts to link HCAI data with practitioner datasets, and ongoing surveys of the individual funding recipients and beneficiaries.

A well-designed and executed program evaluation requires resources and organizational capacity. To address these needs, HCAI could consider three options: investing in in-house evaluation infrastructure, which may include the hiring of additional staff dedicated to evaluation; partnering with an external agency to perform ongoing or ad hoc evaluations; or placing the responsibility of program evaluation on awardees (in the case of grants), who would have to collect and track participant data throughout and after the funding period as a stipulation of the award. This last option may introduce additional needs for technical assistance and support on the part of grantees.

Recommendation A.4.: Establish baseline data reporting for organizational grantees as well as for scholarship and LRP programs including demographic data and unique identifiers for all program participants/beneficiaries.

Rationale: To support program evaluation both of equity and effectiveness (Recommendations A.2 and A.3) and tracking of long-term outcomes, HCAI needs to collect basic data consistently across programs. The data system should be built around existing data sources and include unique identifiers for participants. This includes obtaining the National Provider Identifier (NPI) for participants/beneficiaries who will become clinicians. It also includes California license number for licensed practitioners. For other beneficiaries HCAI should consider assigning a unique identifier perhaps based on a combination of birthdate, a portion of the social security number and name. Demographic data to be collected on scholarship and LRP awardees as well as beneficiaries of organizational grantees should include race/ethnicity, gender identity, sexual orientation, disability status, indicators of socio-demographic status, and location of secondary education and economic status.

The unique identifier and data set are essential to assessing the effectiveness and outcomes of California's investment in these programs and to understanding the relationship between program and participant characteristics and service to high need populations in the state.

Implementation Considerations: Given the number of HCAI programs, reviewing the data collected across programs could be labor intensive in the short term, as would establishing the infrastructure for the data systems. HCAI could leverage existing data initiatives in the State, like the California Cradle to Career Data System,[14] to benefit from their experience and processes for collecting, maintaining and analyzing data on individuals while maintaining confidentiality and privacy within any California requirements.

Recommendation A.5.: Leverage and expand HCAI's current initiatives to identify profession-specific shortage areas and regions with limited health professions education capacity, in order to guide targeted equity investments more effectively

Rationale: HCAI's health workforce programs strive to increase the supply of health practitioners in medically underserved areas and to promote access to health professions education. As noted throughout these recommendations, this effort should be informed by data, whenever possible. While HPSA designations are a valuable metric, designations are for primary care, oral health or mental health shortages, while the HCAI programs cover a wider range of critical professions. In addition, there are numerous shortcomings in the HPSA designation process.[15,16] California would be well served to develop processes to designate areas of need for specific health care professions based on data already available to HCAI. These designations, which could be by region, county or other geographical areas, could be used to give priority to applicants for organizational grants, as well as for scholarships and LRP awards. This would greatly facilitate targeting California resources to build a workforce matched to community need.

In addition to designating geographical areas in need of health practitioners, HCAI should also consider identification and designation of areas with relatively limited educational capacity by profession for organizational grants that support expansion of educational capacity. Given the enormous investment in health professions education in California, assuring effective targeting of these resources to the highest need communities and population groups is justified.

Implementation Considerations: HCAI is already undertaking multiple initiatives aligned with this recommendation, using in-house and secondary data sources (e.g., state licensure data) to develop profession-specific workforce projections and a variety of data dashboards. Therefore, the infrastructure to support implementation of this recommendation is - to an extent - already in place. This recommendation further seeks to both expand these efforts to be representative of the breadth of health professions that make up California's health workforce and to integrate the resulting data more purposefully in HCAI's workforce development funding portfolio. For example, profession-specific shortages at the regional, county, or census tract-level could be a criteria when awarding grants, scholarships, and LRPs intended to increase the supply of the given profession (e.g., social workers, psychiatrists, medical assistants, etc.). Geographic areas prioritized for funding are likely to change over time, necessitating ongoing data collection and analysis, and transparency in profession-specific geographic priority areas is encouraged, for example, by listing them in grant guides. Although collecting data on unlicensed health workers may be challenging—requiring the use of HPSAs or other indicators of unmet need for certain programs—HCAI, as the state's central source of health workforce data, is uniquely positioned to adopt more nuanced approaches to workforce analysis, which can better inform targeted policies and investments. Similarly, for educational capacity shortage designations, regional and/or county-level data from the Integrated Postsecondary Education Data Systems (IPEDS) on the number of entering or graduating students by health profession and/or the number of training programs could be analyzed. This data could then be used to inform evaluation criteria for organizational grants in efforts to increase access to education and training, avoid duplication of programming, and ensure representation of HCAI investments across the state's regions.

Organizational grant applicants that meet both profession-specific and educational capacity shortage criteria may receive preferential consideration from HCAI during the evaluation process.

Organizational Grant Program Recommendations

Recommendation B.1.: Prioritize community colleges and institutions that disproportionately serve individuals from underrepresented and disadvantaged communities in the review process.

Rationale: HCAI prioritizes awarding scholarships and LRPs to individuals from disadvantaged backgrounds and who exhibit characteristics predictive of practice in medically underserved areas; one could argue that organizational grants should be prioritized for the institutions most likely to produce those graduates. Hispanic/Latine, Native American, and Black students are more likely to attend community colleges or non-selective four-year colleges and to serve underserved populations.[17–19] California community colleges are particularly diverse, with enrollment of underrepresented minority students, females, and economically disadvantaged students all over 50%.[20] Community colleges have played an important role in increasing the diversity of enrollees in medical, nursing, and physician assistant schools, and studies find physicians who attended community college during their educational journey are more likely to practice in underserved settings and train in family medicine.[19,21–23] Recognizing their important contributions to meeting the health needs of California, The California Future Health Workforce Commission identified community colleges as key targets for action in their final report.[4]

There is also evidence suggesting that public schools perform better than their private counterparts in the production of primary care physicians and graduating physicians that practice in HPSAs and that Black students who attend public schools are less likely to report discrimination than their fellow private school peers.[24,25] Students at minority Serving Institutions, or MSIs, are more likely to be the first in their family to attend college and are more likely to come from low-income backgrounds, compared to their counterparts at non-MSI and predominantly white institutions. A 2019 consensus study report from the National Academies of Medicine identified MSIs as, "a valuable resource for producing talent to fulfill the needs of the nation's current and future STEM workforce" including in health care.[26]

Implementation considerations: Additional funding considerations can be granted to institutions including but not limited to minority serving institutions, community colleges, and eligible community-based organizations like Community Based Mental Health Centers and Federally Qualified Health Centers assuming grant eligibility criteria are met. Grant applicants that satisfy one or more categories could be awarded extra points (on top of the base maximum score possible). This strategy could be easily automated and is an extension of current scoring processes for some LRPs. Importantly, awarding of extra points based on targeted institutional characteristics gives eligible applicants a boost without going so far as promising guaranteed funding.

Recommendation B.2.: Collect demographic data of program personnel and institutional leadership as part of the application and administrative reporting mechanism for all grant awardees.

Rationale: Faculty diversity is an indicator of institutional culture and is a key determinant that shapes the experiences of underrepresented students in higher education. It is associated with positive educational outcomes including graduation for students underrepresented in the health professions and promotes minority health and a reduction of health disparities via mechanisms including research advancements, training students in culturally competent care, and positive contributions to organizational policies and processes.[27–30] The lack of minority faculty in health professions education has been identified as a barrier to the recruitment and retention of minority students.[31–33] For one, a lack

of faculty and leadership diversity often translates to a lack of diversity on admissions committees,[34] and therefore a lack of needed perspective to facilitate diversity in applicant review processes. Further, without faculty who reflect shared lived experiences and perspectives, trainees who are underrepresented in their field are deprived of role models who can serve as mentors and sources of support throughout their training.[32]

Collecting demographic data for program and institutional personnel through HCAI's workforce program grant cycles and from grant awardees indicates awareness on HCAIs part of the important role that leadership diversity plays in supporting and retaining students from underrepresented backgrounds and holds organizations accountable for claims of a commitment to equity. The inclusion of this data element in HCAI's processes may spur critical reflection on the part of organizations that will enhance awareness of diversity and inclusion blind spots. This data also serves a practical purpose. First, it promotes transparency in HCAI's processes and investments by incorporating the organizational demographics of awardees into public reporting, providing those within and outside of HCAI with a more comprehensive understanding of the Department's grantee profile. Further, once analyzed, this data can aid in identifying any relationships between the composition of an organization's personnel and HCAI equity outcomes of interest (e.g., trainee demographics, graduate practice in underserved areas, depth or breadth of culturally responsive training, etc.) – findings which could be used to inform future program modifications and further strengthen equity in its grantmaking processes.

Implementation considerations: The personnel and leadership data collected through HCAI's grant programs would not be used for scoring or funding decisions, the data would enable HCAI to conduct ongoing evaluations of overall program and initiative success and identify best practices that help achieve HCAI's equity goals.

Demographic data to be collected would ideally include race, ethnicity, languages spoken, gender identity, and sexual orientation. HCAI already collects much of this demographic data for organizational grant beneficiaries and individual scholarship and loan repayment recipients. Similar data collection strategies could be used at the organizational level. Any intent on the part of HCAI to collect personnel and leadership data from organizational grant applicants and awardees should be publicly communicated in advance of its rollout by at least one year and included in grant guides and newsletters to promote awareness. Additional guidance on requesting and collecting this organizational demographic data is available to assist HCAI in the implementation of this recommendation.[35–37]

Recommendation B.3.: Modify and weight institutional strategies for enrolling and supporting trainees from underrepresented communities based on the best available evidence as it pertains to recruitment, admissions, and student support/retention and require supporting documentation.

Rationale: HCAI grants have a stated purpose of increasing the number of underrepresented students receiving health professions training. To achieve this without accounting for demographic data in award making, the Department must assess whether and to what extent applicant institutions' internal practices reflect a commitment to inclusion and cultural diversity. This recommendation seeks to strengthen data quality while recognizing the inherent limitations of using surveys and applications to assess institutional practices and culture.

The approach currently used by HCAI to assess organizational strategies to enroll trainees from disadvantaged or underrepresented backgrounds (a limited list of closed "checkbox" response options)

is vulnerable to social desirability bias (the tendency to answer questions in a manner that aligns with what is perceived as socially acceptable). This could result in inaccurate interpretations of findings, limitations in the validity and reliability of findings, and a lack of meaningful variation among application respondents.[38,39] Further, current response options are vague (e.g., "uses data to identify underrepresented groups") and partially based on what institutions have reported doing in the past, rather than what the evidence indicates are the most effective strategies for increasing diversity in health professions education/training. Two steps are recommended to address these current limitations and hold institutions more accountable for their diversity efforts: 1) modify and weight check box options based on available evidence and best practices, and 2) require documentation for selected strategies to encourage respondents to critically reflect on the validity of their responses and increase accountability for the equity boxes they check.

Implementation considerations: Suggested response options to the application question "Select the strategies you will use to recruit, admit, and support trainees from underrepresented communities:" are included as Appendix B.

Enrolling and supporting students from underrepresented communities requires a continuum of commitment before, at, and after formal entry into a training program. Therefore, applicants should be scored not only on the individual strategies selected, but also on the *distribution* of their responses across the areas of recruitment, admissions, and support and retention.

Following each checkbox section (Recruitment, Admissions, Support), a required narrative question is suggested, "Please describe how each of the strategies selected in the previous question have or will be implemented. Include any demonstrated successes in the use of these strategies at your institution and/or within your program to date in enrolling and supporting trainees from underrepresented communities. If available, please include URLs to program or institution web pages describing these efforts or linking to formal policies. [word limit]".

Recommendation B.4.: Modify institutional strategies for encouraging graduates to provide clinical services in areas of unmet need, and expand metric to all organizational grants; require supporting documentation.

Rationale: GW's approach to this recommendation is similar to that for Recommendation B.3. The factors that have been identified in the literature as the strongest predictors of practice in an underserved area are: personal characteristics of having come from an underrepresented or disadvantaged background (and in the case of rural clinicians, having come from a rural area); intent to practice in an underserved area; clinical training and educational experiences in an underserved area/settings (the longer, the better), and to a lesser extent exposure to a longitudinal health equity curriculum.[40,41] These factors are largely already reflected in the 1) program requirements, 2) pre-existing response options for this question for relevant HCAI grants, and 3) responses to the application question pertaining to Grant Recommendation B.3. Therefore, minor content modifications and addition of required documentation are recommended.

Implementation considerations: Suggested response options to the application question, "Select the program strategies you will use to encourage your students to practice in areas of unmet need" are:

- Select students based on strong interest to provide clinical services in areas of unmet need

- Prioritize students coming from underserved communities
- Set up marketing and outreach programs to recruit students who have interest in providing clinical services in underserved communities
- Encourage students to commit to clinical practice in a community with unmet needs
- Offer incentives to students who commit to providing clinical services in underserved communities
- Recruit rotation agencies serving areas with unmet need
- Provide employment assistance leading to employment in underserved areas
- Include a required longitudinal curriculum intended to build health equity knowledge and competencies

Following this question, a required narrative response question is proposed: "Please describe how all the strategies selected in the previous question have or will be implemented. Include any demonstrated successes in the use of these strategies at your institution and/or within your program to date in encouraging graduates to provide clinical services in areas of unmet. When available, please include URLs to program or organization web pages or documents describing these efforts. [word limit]". To further increase accountability for encouraging practice in underserved areas, HCAI could ask awardees to provide updates on the implementation and outcomes of selected strategies as part of standard administrative reporting procedures.

This recommendation could be implemented within all organization grant programs for which increasing access to health care services in areas of unmet need is an explicit aim, including existing program applicants that may be able to present outcome data for graduates in areas of unmet need. Doing so allows these programs to present both stories and numbers reflecting their efforts to encourage practice in areas of unmet need. The combination of the two could be used to: acknowledge efforts of applicants for whom demonstrated outcomes may be lagging; flag applicants when there is a major discrepancy requiring further examination between proclaimed strategies and demonstrated outcomes; and identify associations between graduate outcomes and institutional activities (which could help inform program requirements in the future).

Recommendation B.5.: Make minor evidence-based modifications and require supporting documentation for strategies to implement culturally responsive care training into the program operations

Rationale: The rationale for Recommendation B.5. is consistent with that for Recommendations B.3. and B.4. The literature does not conclusively identify best practices in culturally responsive care training, although cultural competence training is a major area of focus in published research and the available evidence base.[42–44]

Implementation considerations: HCAI already includes several evidence-informed strategies for promoting culturally responsive care training as response options in grant applications. However, strategies could be strengthened by editing the following strategies to read *"Require"* instead of "Provide" and "longitudinal" or "ongoing" instead of annual and not specified:

> *Provide* (students/fellows/residents/trainees) *annual* training in cultural competency education.
> *Provide* training for (students/fellows/residents/trainees) on anti-racism, unconscious bias, diversity, equity, inclusion, belonging, and accessibility

As there are faculty barriers to providing cultural competency training,[45,46] HCAI may also consider adding a strategy for "Provides professional development, protected time, additional staff, or other supports for program faculty providing cultural competency or health equity training". Additionally, HCAI may consider adding a strategy of "Incorporating into the training program immersion experiences for (students/fellows/residents/trainees) to engage with communities served".[46] Lastly, there is a potential for duplicity in responses to the strategies "training in cultural competency" and "teaching professionalism that incorporates multi-cultural social etiquette and norms" and encourages HCAI to discuss the intended distinction and perhaps consolidate the two.

As with Recommendations B.3. and B.4., HCAI is encouraged to add a required narrative component immediately following the closed "checkbox" options question asking applicants to elaborate upon and provide additional web links for all strategies selected. To increase awardee accountability, HCAI could ask awardees to provide updates on all strategies selected as part of their annual reporting.

Recommendation B.6.: Promote geographic representation of organizational awardees in the award making process.

Rationale: Educational institutions and clinical care facilities serve as anchor institutions in communities, which have tremendous influence on community viability.[47] HCAI funding may allow awardee institutions to expand their overall capacity for training and clinical care. For some health professions, educational opportunity varies greatly by region and community often with economically disadvantaged communities having the fewest programs. All else equal, geographic representation among organizational grantees promotes equity in the grant making process at not just the institutional level, but the community level as well.

Designating educational shortage areas by profession and giving points in the review process, would send a clear signal to communities and educational institutions encouraging the development of programs and proposals from those areas.

Implementation considerations: As noted in Recommendation A.5., HCAI could set up a process to designate regions with educational shortages by profession. Geographic representation criteria could be based on any or all the following need and equity-based indicators:

- Educational capacity: A limited number of education program slots per capita in a profession or few graduates in the profession in the region compared to statewide capacity.
- County Health Rankings or Healthy Places Index: counties in lowest quartile.
- In the case of primary care practitioners, HPSA score: counties with severity of 14+ (a threshold used by the Health Resources and Services Administration (HRSA))

Geographic representation criteria could be built into the review process after initial scoring is complete, using a similar strategy to that applied for all other HCAI programs that note a preference for geographic representation in their grant guides. It assumes reviewed applicants have met all minimum eligibility criteria and any HCAI predetermined scoring thresholds for funding. This review process has the added secondary benefit of allowing HCAI to identify geographic trends in grant making, and importantly, to identify award "deserts" that may benefit from targeted grant promotion and outreach efforts. In cases of educational capacity deserts for specific professions, HCAI could consider preferential funding

strategies for applicants proposing to serve those areas, including for expansion of existing programs through the establishment of branch campuses.

Scholarship Program Recommendations

Recommendation C.1.: Give funding priority to applicants who:

- *Criteria 1: Are prior recipients of an HCAI scholarship still completing their education*
- *Criteria 2: Attended or are using the scholarship to attend at least one year/12 credits of community college*
- *Criteria 3: Participated in the Health Professions Pathway Program (HPPP)*

Rationale: This recommendation would support a broader strategic effort to coordinate HCAIs portfolio of workforce development programs to create a system of supports across the health professions training pathway. It demonstrates the Department's commitment to trainees – particularly those from disadvantaged backgrounds - through a continuity of investments in their development. It encourages younger students to pursue the health sciences by incentivizing and rewarding participation in pathway programs. It promotes educational retention of prior one-year scholarship recipients by addressing ongoing financial needs associated with completing their eligible program. And it recognizes the value of community colleges and the potential of community college students in advancing health equity in California, as discussed in Recommendation B.1.

Implementation: Implementing this recommendation partially hinges on HCAI's ability to identify and verify applicants who meet these criteria. HCAI could ask a self-report question, "Please indicate which of the following apply to you: 1) I am the prior recipient of an HCAI scholarship and am still enrolled in the same education/training program for which it was received [question bubble with names of eligible scholarships] 2) I completed at least one year of my education/12 credit hours at a community college [followed by open text box for name pathway program or community college and year(s) attended; transcripts required] 3) I participated in an HCAI Health Professions Pathway Program [question bubble describing program and linking to web page; followed by open text box for location of pathway program and participating year(s)] Ideally this self-reported information would be validated by HCAI.

Lastly, HCAI should broadly promote these funding priority criteria to the prospective applicants who could benefit from them. As part of the broader outreach and recruitment strategy outlined in Recommendation A.1., this would include proactively communicating with pathway program beneficiaries and current scholarship recipients to alert them to their eligibility for priority scholarship funding. It would also include promoting scholarship opportunities across the California community college system.

Recommendation C.2.: Explore the use of an objective, place-based composite measure to assess and score disadvantaged background

Rationale: Individuals from economically disadvantaged backgrounds, from poor communities lacking adequate support for secondary education, from families with no prior individuals with post-secondary education, individuals with disabilities, or having been homeless all face major disadvantages in accessing higher education. Black, Hispanic/Latine, American Indian/Alaska Native, and Native Hawaiian/Pacific Islander populations are disproportionately represented among these individuals. Scholarships are a critical tool to support individuals from disadvantaged backgrounds in pursuing higher

education, especially in the health sciences, which may represent high debt burdens. However, some self-reported measures of disadvantaged background among health professions students have proven unreliable in both specificity and sensitivity in the past.[48] This may be in part due to stigma, recall bias, and lack of clarity around what qualifies someone as disadvantaged. Objective measures of disadvantaged status have proven more accurate in studies.[49,50]

Recognizing this, institutions like UC Davis and the Association of American Medical Colleges (AAMC) are moving to substitute self-report measures of disadvantage with place-based measures and indices based on social and structural determinants (Personal communications with Mark Henderson, University of California - Davis and Leila Harrison, Washington State University and AAMC). For example, the College Board's Landscape ™ tool provides consistent high-school and neighborhood applicant information to aid admissions officers in the review process. Subjectivity could be minimized in HCAI's process for identifying students from disadvantaged backgrounds using place-based information that is already collected in most applications. This has the added benefit of reducing application completion burden for the applicant.

Implementation Considerations: To some extent, HCAI is already doing this with one of their scoring methodologies which awards just under 15% of the total possible scoring points based on HPSA score of where an applicant went to high school or resided when they received their GED. HCAI could incorporate a more dynamic measure of disadvantaged background that is narrowly targeted to the local level. Though there is much attention being paid to multidimensional and geographic indicators of disadvantage and health inequities in research and health policy,[51,52] **there is no consensus on a gold standard indicator for socioeconomic deprivation**. Five possibilities for HCAI to consider (The California Healthy Places Index; The Area Deprivation Index; The Social Vulnerability Index; The County Health Rankings; and the Structural Racism Effect Index) are discussed in Appendix C**.** Absent consensus guidance, selection of the "best" index to use in the award making process should be guided by HCAI policy priorities, availability of data (ideally at the neighborhood level), implementation feasibility, and threats from legal scrutiny.

Use of a geographic socioeconomic indicator to determine disadvantaged status would require geomapping high school/GED location data based on the selected index. Scores could be based on a severity scale, for example, with those applicants in the quintile representing the most deprivation/need receiving the most available points for this metric.

A geographic indicator may not be appropriate for two populations: applicants who moved to the US after high school and those who were in the foster care system as youth. For the former population, a question or option could be added, "I did not live in the United States in high school". For the latter group, this information should already be collected based on categories captured in the "Do one or more of these situations apply to you" in the general information section of this application. Members of these two groups could be automatically flagged as disadvantaged based on the self-reported selections in response to the general information situations question.

Recommendation C.3.: Substitute all-or-nothing language scoring for a stackable points system; modify scoring points and weights to reflect language ability and ensure English-only speaking applicants otherwise eligible for awards are not disproportionately excluded from receiving them.

Rationale: Supporting a culturally and linguistically diverse health workforce is a key aim of HCAI's scholarship program, and this scoring metric should be retained given the State's disparities between language needs of residents and languages spoken by the health workforce.[7] However, the heavy all-or-nothing weight frequently given to this scoring metric (over 20% for most scholarships) may unintentionally be excluding scholarship applicants for whom the program is otherwise targeted (English-only speaking trainees from underrepresented backgrounds). Further, there isn't a demonstrated need for dual lingual health workers among some subsets of HCAI target communities. For example, analysis of American Community Survey data conducted by the Mullan Institute for this project found that, of individuals who don't speak English in California, just 0.06% and 1.44% are Black in nonmetropolitan and metropolitan areas, respectively. This indicates a low level of need for languages other than English among Black Californians, warranting consideration when weighing language against other dimensions of diversity.

Implementation considerations: This recommendation substitutes the all-or-nothing scoring method (e.g., 20 vs 0 points) for a stackable points system, with points being awarded for each Medi-Cal threshold language spoken fluently/well enough to be able to provide direct services to clients in a service obligation setting. In some cases, HCAI may consider weighting specific languages more heavily to meet the needs of target populations.[7]

This modified scoring method is intended to reward applicants for the number of high-need languages they speak while reducing the likelihood that scholarship applicants would be rejected based on language ability alone. Additional analyses to understand the extent to which this metric has impacted award outcomes is warranted (see Recommendation A.2.), and if this recommendation is implemented, it would be interesting to examine any changes in composition to the applicant and awardee pool. Further, it is difficult to corroborate self-reported language data. HCAI may want to flag applications for a more critical manual review in the event that unusually high numbers of reported languages spoken are being observed as a trend in applications.

Recommendation C.4.: Reduce the scoring weight for graduation date scoring criteria.

Rationale: Finances are one of the most significant barriers to *entry* into health professions education for students from economically and educationally disadvantaged backgrounds.[53,54] Scholarships are therefore critical tools for addressing this barrier. HCAI's current use of all-or-nothing scoring advantaging more tenured students has the benefit of potentially being able to demonstrate progress in achieving service obligation outcomes sooner but may come at the expense of prospective students who require financial support to enter education and training programs in the first place. This recommendation aims to maintain but decrease the emphasis on graduation date in scoring to reduce the likelihood that it disproportionately disadvantages new program entrants. It is intended to balance scholarship purposes of both recruiting and retaining health professions students, while recognizing HCAI accountability obligations and the need to demonstrate a timely return on investment in the form of scholarship recipients placed in areas of unmet need. Lastly, the funding priority of having been a prior scholarship recipient (Recommendation C.1.) provides further justification for reducing the current

points awarded for graduation date (because repeat scholarship applicants who are graduating in the current funding year would be receiving preference via two scoring mechanisms for essentially the same factor).

Implementation considerations:
Analysis of current scholarship awardee data trends is suggested as a priority equity audit area (Recommendation A.2) to better understand the applicant pool and historical distribution of awards based on student tenure. If data suggests a significantly uneven distribution of funding favoring last-year students over new students, HCAI may want to consider further lowering the weight of this metric or eliminating it entirely, as it would suggest scholarships are not being used effectively to recruit new entrants into the health workforce pipeline in California.

Recommendation C.5.: Reduce the scoring weight for previous volunteerism/work history in/with a medically underserved area/populations.

Rationale: Under the process in place at time of this report, this all or nothing (yes/no) question is susceptible to social desirability bias and further is impossible to corroborate. If the intent is to assess likelihood of service in areas of unmet need, one could argue that the applicant's background may be a more valid measure (Recommendation C.2). Further, since service obligations are required of HCAI scholarships, it's unclear what effect this question has on intended practice outcomes. Importantly, scholarships are primarily targeted to trainees from economically or otherwise disadvantaged backgrounds. Yet, this scoring criteria could have the unintended negative effect of disadvantaging them in the review process by reducing cumulative scores for applicants whose competing priorities and lived experiences make such service difficult.[33,55] An analysis of Black bachelor's students, for example, found that they were significantly more likely to be parents or guardians, have caregiving responsibilities adult family members, and be employed full-time compared to other students.[25]

Implementation considerations: Service and volunteerism are important factors when considering whether applicants demonstrate characteristics and values consistent with the Department's equity goals – especially in competitive scholarship programs. To balance this value with the unintended consequences described above, HCAI could retain this metric while reducing scoring emphasis on it. Further, HCAI should critically assess the value and liability of this question through data analysis. Is there significant variation in how applicants' respond, or is the "yes" box almost uniformly checked? To further address potential challenges with this question, HCAI could include a supplemental narrative response as a component of answering this question (this qualitative data could provide insight on the utility of this question and paint a richer picture of scholarship applicant/awardee profiles). Further, due to the vagueness of the question in its current form, HCAI should clarify and elaborate upon what qualifies as work or volunteer experience in/with an underserved area/population and provide examples of such. A guiding question is, "What could reasonably be expected of a young prospective trainee from a disadvantaged background?"

Recommendation C.6.: Give preference to applicants from geographical areas with shortages in the profession for which a scholarship is being sought.

Rationale: The implementation of this recommendation would bring it in line with similar provisions across many of the LRP programs that stipulate HCAI's preference for geographic representation of awardees. It promotes equitable geographic distribution of awards in the short-term, while also

facilitating equitable distribution of practitioners in the long-term. This latter point is based on evidence that clinical training site is a predictor of practice location and that trainees from rural areas are more likely to return to practice in rural areas.[41,56] Furthermore, the applicant mapping that would be required to implement this recommendation would allow for the identification of scholarship applicant and awardee geographic trends, which would be helpful in informing targeted outreach and promotion efforts.

By designating shortage areas by profession (Recommendation A.5) and giving preference to applicants from shortage areas and/or agreeing to practice in those areas, HCAI would be targeting their resources to meet needs in high need areas.

Implementation considerations: There is precedent for this recommendation. One of the reviewed programs stipulates that, "Additional preference may be given to an applicant from a geographic region which is not represented by the highest scored applications." This provision could be extended to other scholarship programs as well but with preference going to individuals from areas with shortages in the profession for which a scholarship is being sought, as discussed in Recommendation A.5. Because most of HCAI's scholarship offerings are for programs that can be completed at community colleges or public institutions that don't require significant travel, and scholarships are intended to serve students from disadvantaged backgrounds whose options to travel for school are limited, geographic distribution should be based on applicant's current place of residence.

Loan Repayment Program Recommendations

Recommendation D.1.: Expand funding priorities to all LRP programs to include:

- *Prior LRP recipients*
- *Prior recipients of an HCAI scholarship*
- *Health Professions Pathway Program (HPPP) participants*

Rationale: This recommendation is similar in function and rationale to Scholarship Recommendation C.1. One notable exception is that for LRP applicants, attendance at a community college has been replaced with prioritizing funding for prior LRP recipients to encourage retention and ongoing service in areas of unmet need. Since removing the scoring measure of number of years practicing in a HPSA has also been recommended (see Recommendation D.2. for severity of need), this funding priority also serves to still reward LRP applicants for demonstrating a continued commitment to underserved areas/populations.

Implementation: This recommendation could be implemented for all LRPs by prioritizing funding for applicants who fall in these categories, assuming all other eligibility criteria and any established scoring thresholds are met. In the future, to further strengthen, coordinate, and expand the network of HCAI sponsored programs, an additional funding priority of having been a beneficiary of one of the Department's organizational grant programs could be considered.

Please see companion Recommendation C.1. for further considerations

Recommendation D.2.: With the exception of program-specific authorization provisions, standardize LRP scoring metrics to focus on those that most strongly align with the equity aims of LRPs: (1) service in areas of "unmet need" (2) supporting a culturally and linguistically diverse health workforce inclusive of practitioners from disadvantaged backgrounds (3) serving high-need populations, including Medi-Cal; (4) provision of high-quality, culturally responsive care. To this end, recommended scoring metrics are:

- *Severity of unmet need (1)(3)*
- *Service to Medi-Cal (3)*
- *Disadvantaged background (2)*
- *Language (2)(4)*
- *Cultural competency (2)(4)*

Rationale: HCAI is mission aligned and clear in their LRP aims; processes to operationalize this should be reflected and publicly transparent in application review and scoring. Improved standardization of scoring metrics will have the added benefit of reducing HCAI administrative burden, freeing up valuable capacity for other areas. It also reduces the burden on LRP applicants by removing questions that HCAI does not intend to score.

Severity of need: Replace the current HPSA metric (# of years of experience) with one that accounts for severity of need in the community of proposed service

Rationale: The primary purpose of LRPs is to recruit and retain clinicians to serve in areas of unmet need. This recommendation suggests eliminating the tenure-based HPSA measure of number of years served and replacing it with a need-based measure. This would help promote the distribution of LRP funds to the areas of highest need while de-emphasizing the length of tenure as an element in the award making process. The tenure-based metric perpetuates the status quo at the potential expense of excluding new LRP recipients who could expand access in areas of unmet need (for reference, the National Health Service Corps provided about triple the number of new vs continuation LRP awards in 2021).[57] Continuation LRP recipients also already receive funding priority through Recommendation D.1. While large swaths of California have received at least one HPSA designation[58] (a leading criteria for LRP service obligations), there is variation in severity and need behind them.

Implementation considerations: The new scoring metric for practice in underserved areas (currently the HPSA scoring category) should account for nuances in health care practitioner need, which could be accomplished in a few ways. If sticking with a HPSA-based measure, scores could be based on HPSA severity score, with higher scores receiving more points. Alternatively, this measure could account for need based not on practitioner supply but on health outcomes or on the structural factors that influence health and drive health inequities. The former could use data from California County Health Rankings "Health Outcomes"[1] and award points based on health rankings (e.g., LRP applicants practicing in a county in the lowest quintile based on health ranking receive the most possible points). The latter could use the same indicator measure of disadvantage used in Recommendation C.2., which also supports the consistent use of data tools in HCAI evaluation methods. Extra points could be reserved for working in high need practice settings, like community health centers (modified based on LRP intended beneficiaries/eligible practitioners). The implementation of this recommendation would be further facilitated if HCAI moves forward with the recommendation to designate shortage areas by profession as described in Recommendation A.5.

Service to Medi-Cal: Add a scoring metric to assess LRP applicants' service to Medi-Cal members and individuals who are uninsured.

Rationale: Based on data from 2019, 88% of primary care providers in California serve any Medi-Cal members, but that percentage drops sharply as the provider Medi-Cal volume increases, with less than 30% seeing 150 or more Medi-Cal members in a year.[8] Working in a HPSA doesn't necessarily translate to a high volume of direct care for medically vulnerable patients. This recommendation attempts to increase the likelihood that LRP recipients are not only providing care in areas of unmet need, but to patients with unmet need – and increases their accountability for doing so. While individual clinicians are unlikely to know the insurance status and breakdown of their patient panel, strategies can be implemented to assess their presumed (for new applicants) and demonstrated (continuation applicants) provision of services to these populations.

Implementation considerations: For new LRP applicants who would be beginning their service obligation, HCAI could adapt the payer mix question and scoring rubric from its organizational grant programs for use in LRP applications and scoring. LRP applicants would be asked to report payer mix for their employment site (likely available via the employer site billing department). Points would then be awarded on a scale with a higher proportion of Medi-Cal members/uninsured patients earning higher points. This strategy could be replicated for continuation applicants or those who have been practicing at their employer site for at least a year, or an alternate strategy could be employed to increase accountability for individual practitioners. This alternate approach would necessitate a review of Medi-Cal claims data to determine (based on NPI) the applicant's Medi-Cal member volume. This strategy is likely to be resource and time intensive, but if implemented, provides an objective performance measure that can be used to direct LRP funds to the practitioners working with the most medically vulnerable individuals in California. Since this strategy is predicated on the availability of an NPI number, it would only apply to billing practitioners.

Disadvantaged background: Explore scoring for disadvantaged background based on an objective, place-based composite measure

Rationale and Implementation: See Scholarship Recommendation C.2.

Language(s) spoken: Substitute all-or-nothing language scoring for a stackable points system; modify scoring points to reflect language ability and ensure English-only speaking applicants otherwise eligible for awards are not disproportionately excluded from receiving them.

Language(s) spoken: Substitute all-or-nothing language scoring for a stackable points system; modify scoring points to reflect language ability and ensure English-only speaking applicants otherwise eligible for awards are not disproportionately excluded from receiving them.

Rationale and implementation: As per Scholarship Recommendation C.3. However, since the practice location of LRP recipients is already known, this metric would be more impactful if scores were based on the county-level threshold languages spoken by the applicant for the county in which they practice.

Cultural competence: Include a standardized cultural competence metric in all LRP scoring rubrics and require cultural competence training for recipients.

Rationale: Provision of equitable care is determined not by just where a clinician practices, but by how they practice.[59] This should be a theme across all LRP programs, not just some. However, it's not uniformly emphasized and is measured using inconsistent indicators (e.g., having taken a class; having worked with certain populations; narrative reflection). This recommendation suggests a standardized approach to account for applicant cultural competence in the review process, coupled with a training requirement to ensure a minimum level of competency of all sponsored clinicians and alignment with authorizing provisions.[60] Cultural competence is measured based on multiple dimensions: cultural attitudes; cultural knowledge; cultural skills; cultural behaviors; cultural desire; and cultural encounters.[61] The most prominent dimension assessed as part of HCAI's current scoring strategy is that of encounters(which assumes that number and duration of encounters with underserved/underrepresented populations increases cultural competence. In a systematic review of cultural competence assessment tools, study authors note concerns around the efficacy of using self-evaluated results to measure most dimensions of cultural competence. They recommend that if objective observations cannot be made, a self-rating based on frequency of behaviors (implementation of skills) may be used as the best alternative.[61]

Implementation considerations: To measure cultural competence based on frequency of behaviors, HCAI could incorporate a validated assessment tool into the LRP application processes. The Cultural Competence Assessment (CCA) instrument was designed to provide evidence of cultural competence among health care practitioners and staff based on cultural competence components of fact, knowledge, attitude, and behavior.[62] It stands out for being the only tool in a review that asks about frequency of cultural competency behaviors. This recommendation could bolster applicant accountability by asking a follow-up narrative question, similar to that which has been asked in select HCAI program applications, "Describe how your lived, professional and/or educational experiences have contributed to gaining an understanding of the cultural and linguistic needs of the medically underserved community."

The self-reported nature of the cultural competency application data – even with a narrative component – is vulnerable to reporting biases and other threats to validity and reliability. Further, there is no consensus on the best indicator to demonstrate cultural competence. Therefore, it is recommended that as a provision of loan repayment, all recipients be required to complete "A Physician's Practical Guide to Culturally Competent Care",[63] which was developed by the U.S. Department of Health and Human Services. Its use is not specific to physicians, and the course is free and satisfies continuing education credits practitioners would likely need anyway. LRP recipients would have to demonstrate proof of course completion as part of their standard reporting requirements. Alternatively, employer sponsored cultural competency trainings with documented proof of completion could satisfy the requirement.

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APPENDIX A: A National Scan of Promising Strategies to Promote Equity in Grant Making and Health Workforce Development Funding

Purpose and approach

The national scan aimed to identify best practices, promising innovations, and emerging efforts to promote equity goals through the grant making, awardee selection and contracting processes. **Findings from the national scan informed the development of the recommendations in this report.** National scan findings may also have broader value for state and federal funding agencies, policy makers, philanthropists, and other stakeholders seeking to understand the landscape of strategies that have been used to elevate equity in grantmaking and health workforce development.

Findings from this excerpt of the national scan are presented in two sections: Section 1 outlines broad strategies and real-world examples that have been used to incorporate equity in funding processes across sectors and fields; Section 2 presents more detailed findings outlining strategies that have been used to enhance equity in funding and programming specific to health workforce development.

The strategies and case examples outlined in national scan findings were identified through targeted searches of the scholarly and grey literature, media and press content, and state and federal labor, education, and health workforce agency websites as well as through the knowledge of the GWU staff of existing programs and policies. Google and PubMed were the primary search engines used to identify data sources, and key search terms included “diversity”, “equity”, “inclusion”, “DEI”, “funding”, “grantmaking”, “philanthropy”, “health workforce”, and “workforce development”.

National scan findings are not intended to be exhaustive, but rather to be *representative* of a range of strategies that have been used by other entities to incorporate equity in grantmaking and workforce development.

In Section 2, case examples are heavily derived from the U.S. Department of Health and Human Services Health Resources and Service Administration’s (HRSA) extensive roster of health workforce development programs. HRSA programming is emphasized in this report for multiple reasons. First, HRSA’s workforce aims centered in health care access for underserved communities, workforce supply and distribution, and advancing health equity are closely aligned with those of HCAI. Second, detailed program documents including notices of funding opportunities (NOFO) are readily accessible to the public through federal government websites, providing GWU with a depth and breadth of information about federal workforce programs that was found to frequently be lacking in available online information from state agencies and private entities. Lastly, under the Biden Administration, there has been a stated commitment and surge in activity to advance equity.[1] As such, federal efforts across agencies can serve as contemporary exemplars for centering equity in policy and programs, including health workforce development.

A Note on Defining Equity

The national scan revealed variation in how equity was defined across organizations and within different contexts, and some documents or programs identified do not provide any explicit definition of the term. For purposes of this report, the term “equity” is used in one of two ways aligning with the following definitions:

When used in the context of HCAI workforce development programming, "equity" refers to the **three goals explicitly defined by the department** and outlined in the preface of this report.

When used outside of the HCAI workforce programming context, the term "equity" is based on the **federal government's definition** and means "the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality."[1]

Section 1: Best practices, promising innovations, and emerging efforts to strengthen equity in grantmaking, contracting, and philanthropy

Funding agents including governments and philanthropic organizations can play an important role in advancing diversity, equity, and inclusion yet themselves are not immune to practices and policies that may have the opposite effect. The significant racial disparities in grant and business funding that favor White applicants over their Black counterparts is but one example of the inequities that persist and stifle economic growth and innovation in minoritized communities.[2] These disparities are rooted in structural discrimination that has deprived persons of color and those from disadvantaged communities from having equal access to the resources and networks that open the door to funding opportunities and eventual financial awards.

By learning about and acknowledging the barriers to financial opportunity and capital faced by some communities,[2–4] funders can identify and interrupt norms that may perpetuate inequities and proactively implement intentional strategies to dismantle them. Several guidance documents have been published to aid funding agents in incorporating diversity, equity & inclusion (DEI) into their organizational culture, policies, and processes,[5–7] including checklists of actions that can be taken corresponding to each phase of the lifecycle of a grant.[7] Collectively, they emphasize best practice approaches to equity in funding that include:

- defining equity and communicating it internally and externally as an organizational priority;
- identifying and addressing organizational norms that may be (invertedly) perpetuating inequity and systems of oppression;
- building relationships with those who are directly impacted by the work to foster understanding of community needs and priorities and ensuring that they are incorporated into funding strategies;
- strengthening outreach and awareness efforts to increase accessibility to funding, and reducing administrative burdens that may serve as barriers;
- providing grantees with supports beyond the initial award to foster success;
- holding grantees accountable for stated commitments to DEI, including through the development of related guidelines, processes for tracking awardee progress, and the use of data

Funding agents from across sectors and fields have taken action to operationalize these approaches in their cultures, policies, funding procedures, and other areas. Promising and emerging strategies to incorporate equity include:

Equity action plans and statements by the granting organization/agency: Governmental and philanthropic funders have demonstrated an institutional commitment to DEI by defining equity and incorporating it into action plans, diversity statements, and core values. Federal funding agencies have developed and publicized plans for incorporating equity into their policies and practices, including in grantmaking and contracting.[1] The US Department of Health and Human Services (HHS) **Equity Action Plan** includes provisions to increase contracting opportunities for disadvantaged businesses by providing them with additional training and outreach and strengthening efforts to inform them of opportunities early to ensure ample time for proposal development.[8] The Equity Plan also includes a commitment to strengthen equity in grantmaking and provided internal guidance to all HHS awarding agencies on how to incorporate equity in NOFOs. HHS has developed performance indicators and an accountability plan corresponding with each of these actions. The National Institutes of Health (NIH) developed a diversity statement based on the input of multiple stakeholders, which has been widely incorporated into its NOFOs.[9] Similarly, the private foundation The California Endowment (TCE) has adopted a "Commitment to Diversity, Equity, and Inclusiveness" statement and embraces DEI as a core value.[10,11]

Equity audits and performance measurement: DEI audits may be used by funding entities to understand areas of alignment and incongruency between stated equity aims and organizational practices and outcomes and to identify opportunities to strengthen equity in grantmaking. In 2022, the Washington State Recreation and Conservation Office released the results of a comprehensive review of equity in the agency's grant programs.[12] Driven by an acknowledgement of the historic drivers of inequity in greenspace and the inherent connection between greenspace and public health, the review revealed multiple opportunities for advancing more equitable grantmaking and outcomes and yielded recommendations for doing tied to six major strategy areas:

- funding set-asides for historically disadvantaged populations/applicants;
- strengthened scoring criteria to elevate projects addressing inequities;
- improved representation within evaluation panels to promote equitable proposal review;
- modified grant payment structures that reduce cost-carrying challenges;
- proactive technical assistance and capacity building to diversity the applicant base; and
- collaborative approaches with nongovernmental partners to ensure inclusion of community voice.

The California Endowment (TCE) has committed to audits as a regular practice to hold itself accountable for measuring and tracking improvement in organizational DEI practices. Findings from the most recent audit were published in an August 2017 report, which identified areas of strength and challenges in achieving the goals set forth in TCE's Diversity Plan.[10] TCE is intentional in publicizing their equity audits and sharing findings with philanthropic colleagues in the hopes to facilitate "deepened philanthropic practice to support diversity, equity, and inclusion at the field level."

The US Department of Health and Human Services (HHS) has clearly defined performance measures to determine the extent to which programs within each of their agencies are meeting the nation's health care needs. Outlined in an annual performance plan and a report to congress,[13,14] performance

measures are mapped to the Department's goals and objectives, including those overseen by HRSA to bolster the health workforce and ensure delivery of quality services and care. The annual performance plan includes not only static measures, but historical data and targets for measures, including several that align with HCAI equity goals.

Selected HHS Health Workforce Performance Measures and Targets

HHS Health Workforce Performance Measure	Target	Actual
% of clinical training sites providing interprofesional training to individuals enrolled in primary care training programs	68% (FY '24)	77% (FY '21)
% of individuals supported by the Bureau of Halth Workforce who completed a primary care training program and are curretly employed in underserved areas	40% (FY '24)	40% (FY '21)
% of trainees trained in medically underserved ommunities	55%	51%
% of program completers/graduates who are uderrepresented minorities and/or from disadvantaged backgrounds	46%	50%

Sources: U.S. Department of Health and Human Services, 2023;[13] U.S. Department of Health and Human Services, 2022;[14] Sheila Pradia-Williams, MBA Deputy Associate Administrator, Bureau of Health Workforce, Health Resources and Services Administration (HRSA), November 1, 2023, Strengthening the Health Workforce Alliance for Health Policy [PowerPoint presentation]

Grant lotteries: The premise behind grant lotteries is that applicants meeting minimum predefined standards are entered into a lottery, with grants then being awarded randomly. Proponents of grant lotteries theorize that the strategy could spur innovation, combat reviewer bias, and increase diversity among awardees.[15,16] In response to reports finding that only a small percentage of proposals of equal quality are funded by the National Science Foundation, a concept proposal from the Federation of American Scientists asserts that incorporating lotteries into the organization's grant review process would "introduce an element of randomness that could unlock innovative, disruptive scholarship across underrepresented demographics and geographies."[17]

Standards for grant lottery eligibility criteria can be tweaked to advance equity aims. In Washington DC, the Department of Small and Local Business Development announced applications for a Green Business Support Lottery Grant, open to all eligible businesses deemed Equity Impact Enterprises based on ownership by individuals who are economically disadvantaged or have been subjected to racial or ethnic prejudice or cultural bias.[18,19] The little evidence that exists on the effectiveness of grant lotteries suggests that applicants find them to be an acceptable funding mechanism for some types of grants and that they may increase diversity of the grant awardee pool.[20,21]

Targeted outreach and supports: Systemic barriers may prevent small, community based and/or minority-led organizations from seeking or receiving needed grant funding. Historically, this has resulted in grants being disproportionately awarded to well-established institutions of privilege, despite findings suggesting that less prestigious institutions may produce a larger return on investment.[22] Funders can implement strategies to help level the playing field by proactively seeking out diverse grant applicants

and providing them with additional supports and accommodations during and after the application process. The US Office of Science's Reaching a New Energy Sciences Workforce program, for example, aims to fund institutions that are historically underrepresented in their awards, including minority-serving institutions,[23] while the Centers for Disease Control and Prevention strategically recruits diverse applicants for its fellowship programs by holding events with HBCUs and other minority-serving institutions and using fellowship ambassadors.[24] The National Institutes of Health explicitly encourages institutions historically underrepresented in grantmaking to apply for support,[25] and its Community Partnerships to Advance Science for Society (ComPASS) program is designed to be community-led, with a stated aim of enhancing community organization competitiveness for future funding.[26] Additionally, the ComPASS program provides robust technical assistance and scientific support for community organizations and their partners. The program's 26 funded grantees represent a diverse mix of community-based organizations addressing social determinants of health and structural inequities.[27]

Reporting of organizational demographic data: Funders can elevate equity in grantmaking by promoting applicants' awareness of their internal DEI practices and environment. The California Endowment (TCE) incorporates this strategy into their grantmaking process by asking all grantees to voluntarily report diversity data for their staff, board, and volunteers and providing corresponding data collection guidance.[28] TCE has reported aggregate diversity data for grantees who provide it, finding that about half have staff comprised of a majority people of color. However, since diversity reporting is voluntary, this data is missing for about a third of TCE's grantees. TCE holds themselves to the same data reporting standard, publishing self-reported diversity data for their board and staff.[29]

Health equity impact assessments: In 2023, New York state passed legislation requiring that health care facilities seeking a Certificate of Need for projects include in their application a Health Equity Impact Assessment.[30] The new regulations aim to ensure that community voices are considered in proposals and that projects' anticipated impacts on medically underserved groups are independently assessed.[31] The Substance Abuse and Mental Health Services Administration (SAMHSA) similarly requires a Disparity Impact Statement as a component of all grant applications to increase inclusion of underserved populations and help systems better meet the needs of disparity-vulnerable populations.[32]

Section 2: Emerging and promising practices in incorporating equity goals in workforce development programming and funding

Governments and other sponsoring organizations incorporate equity into grantmaking and funding for health workforce development and education and training programs in myriad ways, including by how they define the: 1) applicant pool through eligibility criteria and application requirements; 2) program requirements and funding conditions; and 3) criteria used during the review process to evaluate applicants and issue awards. In this section, equity strategies corresponding to these three areas and program examples that illustrate them are highlighted.

Strategies used to incorporate equity in award eligibility criteria and application requirements

Institutional applicant commitment to equity: Some organizational health professions education and training grants require that the institutional applicant include evidence of its commitment to equity aims, like diversity and the reduction of health disparities. The National Institutes of Health (NIH) sponsored Ruth L. Kirschstein National Research Service Award Institutional Research Training Grant requires that applicants include an institutional letter of support from a key institutional leader (e.g.,

Dean, President, Provost) that contains content demonstrating institutional commitment to promoting diversity and inclusion at all levels of the research training environment.[33]

Some programs, like the Loans and Scholarships for Disadvantaged Students programs require applicants to include enrollment data demonstrating the proportion of current and former students who come from disadvantaged backgrounds.[34,35]

Another strategy used by the HRSA-sponsored Medical Student Education Program (MSEP) is the requirement that applicants develop and include a disparities impact statement which measures and describes how training will facilitate participants' capacity to address the needs of underserved populations.[36] This includes organizational efforts to address the social determinants of health and improve trainee cultural competence.

Grants may require cost sharing between the sponsor and awardee institution, requiring that equity-oriented programming reflect institutional commitment in the form of financial investment. For example, Primary Care Loan program institutional awardees must match 1/9th of the grant award.[37] The Area Health Education Center (AHEC) program[38] requires a 1:1 match, though a portion of the awardee's contribution can be non-cash (e.g., in-kind donations, personnel time) and a waiver can be requested by new programs for up to three years.

Accountability for targeted demographic recruitment objectives: Some organizational grants require that all or a proportion of education & training program participants come from disadvantaged backgrounds, which HRSA defines based on environmental, economic, or educational criteria.[39] HRSA holds grant-seeking applicants accountable for the recruitment of disadvantaged students by stipulations that a narrative recruitment plan be included as part of the application. Programs employing this strategy include the Health Careers Opportunity Program (HCOP),[40] the MSEP, and the Loans for Disadvantaged Students Program. In the latter, applicants must expand their narrative to include a plan for retaining students from disadvantaged backgrounds, including racial and ethnic minorities.

Health Profession Opportunity Grants (HPOG), an education and training demonstration program from the federal Administration for Children and Families, is targeted to serve low-income individuals which include recipients of TANF.[41] Similar to the HRSA programs described above, institutional applicants for an HPOG grant must include a plan for the "recruitment, referral, and eligibility determination procedures that the program with use" and justification for their proposed definition of "low-income" and corresponding thresholds.

Some grants hold applicants accountable for recruiting participants from specific ethnic or racial backgrounds, such as explicit targeting of individuals who are Native Hawaiian or Native American. The NIH has published a Notice of Interest in Diversity,[9] which serves as guidance for the requirement that applicants for grants like the Ruth L. Kirschstein National Research Service Award Institutional Research Training Grant include a recruitment plan to increase diversity as part of their application.

Targeted equity objectives: Equity has also been incorporated into criteria that determine the composition of grant applicant pools. The MSEP grant, for example, aims to increase the number of primary care providers in underserved communities and thus is targeted only to public medical schools in the top quintile of states with a projected primary care provider shortage.

The State Loan Repayment Program[42] encourages institutional applicants to address one of HRSA's 7 clinical priority areas in their programming and describe how they will be addressed as part of the application process. These priorities include preventing and reducing maternal mortality, improving access to mental health care, and transforming the workforce by targeting the need.

Individual commitment to serve: Scholarship and loan repayment programs targeted to individual trainees and health workersmay require that the applicant demonstrate a commitment to serving underserved populations or in underserved regions as a requirement of the application process. Evidence of this demonstrated commitment is validated using different strategies. For example, applicants to the Rural Health/Kearney Health Opportunities Programs[43] at the University of Nebraska are required to speak to their commitment to practice in a rural area in an interview that is part of the application process. The Washington State Behavioral Health Workforce Development Initiative[44] application process qualifies a "demonstrated commitment to working in the behavioral health field" based on past volunteer or work experience and future employment goals in the behavioral health field. The Native Hawaiian Scholarship Program[45] employs a multi-faceted strategy to validate applicants' demonstrated commitment to provide primary care to the Native Hawaiian Population through required inclusion of a resume, personal statement, digital story, interview, and recommendation letter as part of the application. The National Health Service Corps (NHSC)[46] also bases eligibility on applicant commitment to serving communities in need, based on an academic and work history, recommendation letters, and a 500-word essay.

Individual demographic requirements: Lastly, sometimes scholarships and loans are reserved for applicants who meet certain demographic requirements to increase the representation of individuals from minoritized backgrounds or promote practice in underserved areas. The Native Hawaiian Scholarship Program is specifically targeted to individuals of Native Hawaiian Ancestry as verified by genealogical records, community elders or long-term residents, or birth records of the state of Hawai`i. HRSA sponsors several health workforce development programs for American Indian and Alaska Native (AI/AN) individuals, as evidenced by their membership in a federally or state-recognized American Indian Tribe or Alaska Native Village.[47] The Rural Health and Kearney Health Opportunities programs are only open to students from designated rural communities in Nebraska,[43] and the NIH-sponsored Extramural Clinical Research Loan Repayment Program for Individuals from Disadvantaged Backgrounds[48] is reserved for applicants from disadvantaged backgrounds, based on their eligibility for federal aid programs.

Section 3: Strategies to incorporate equity into program requirements and funding conditions

Inclusion of equity-oriented curriculum and training elements: There are many examples of sponsors prioritizing equity in grant awards by stipulating the content or activities that must be included in the funded programming and agreed to by award recipients. HRSA's HCOP requires that participants receive training on current and emerging public health issues including health equity and disparities and the social determinants of health. The MSEP requires cultural competency training for participants based on the National Standards for Culturally and Linguistically Appropriate Services (CLAS Standards) in Health and Health Care Standards.[49] The Loans for Disadvantaged Students Program requires that institutions provide adequate instruction regarding minority health issues that reflects "an institutional awareness of the special health needs of minority populations".

Provision of social, academic, and career supports: Programs aiming to increase access to health careers for individuals from historically underrepresented backgrounds often include requirements that

grantees provide participants with additional supportive services. HRSA's HCOP and the Administration for Children and Families' HPOG require or strongly encourage the inclusion of preliminary education training (e.g., test preparation and study skills), counseling, mentoring, case management, and childcare. The California Medicine Scholars Program,[50] a community college to medical school pathway program, is administered by the State's Department of Health Care Access and Information (HCAI) and implemented across four regional academic hubs sites, which support student success via priority enrollment at partner 4-year universities and tailored advising, in addition to many other required program components.

Financial support for participants: Recognizing the significant barrier financial aspects pose to education and careers in the health professions, some grant programs require the provision of financial supports for participants from disadvantaged backgrounds. The Native Hawaiian Health Scholarship Program includes a monthly stipend to cover the cost of recipients' living expenses, and HCOP requires that participants be provided with stipends to defray the non-academic costs associated with health professions training. Additionally, HCOP awardee institutions are encouraged to provide scholarships to participants to cover the costs of tuition and fees. Scholarships and stipends may both be awarded.

Location or type of clinical training and practice site: Education and training grants may require that program training sites are located in an area or type of facility that address the needs of underserved populations. This requirement serves the dual purpose of 1) exposing trainees to health and social needs of underserved populations and building their cultural competence, and 2) providing direct patient care to high need regions or populations. The Teaching Health Center Graduate Medical Education (THCGME)[51] is reserved for primary care residency training sites that are community-based ambulatory patient care centers, like federally qualified health centers (FQHCs), rural health clinics, community mental health centers, or Indian Health Service-run centers. Many health professions scholarship and loan repayment programs stipulate a service obligation in a designated high need area or facility type. The Ballmar Behavioral Health Scholarship program promotes service to Medicaid recipients by requiring that scholarship awardees both train and work at a "targeted Medicaid-receiving agency"[44] The State Loan Repayment Program, NHSC, and Nurse Corps require loan repayment recipients to work in designated Health Professional Shortage Areas (HPSAs).[42,52,53] In the case of the latter program, awardees must agree to work in a critical shortage facility within a primary care HPSA with a score of 14 or higher. Maternity care health professionals must work in Maternity Care Target Areas within HPSAs to be eligible to participate in the NHSC.

Partnerships: Some education and training grants may require that applicants establish strategic partnerships aligned with program goals to be considered for funding. The HRSA-funded HCOP pathway program requires partnerships be in place to facilitate successful implementation of the program's longitudinal curriculum designed to assist students from disadvantaged backgrounds with advancing through the health professions education pipeline. HCOP partnerships should include those that enable acceptance from one academic institution into another through articulation agreements and may include those with high schools, community colleges, Historically Black Colleges and Universities (HBCUs), Hispanic Serving Institutions (HSIs), Tribal Colleges and Universities (TCUs), community-based organizations and health facilities, and state agencies. Community-academic partnerships form the cornerstone of the AHEC program model.[38] As a stipulation of funding, AHEC awardees are required to establish partnerships with organizations including minority serving institutions, state level entities,

health care safety net sites, and pipeline programs that will help serve as connectors for employment and training in underserved communities and maximize the program's impact and outcomes.

Participant data collection and tracking: As part of their award agreement, organizational grantees are often required to collect participant data during and after the award period for purposes of program evaluation and quality improvement. The MSEP requires that awardees measure and report on students' post-graduation residency choice and where they are 1 year following program completion, to include how many of them align demographically with the communities they serve. The THCGME and Scholarships for Disadvantaged Students programs must track students for a year following program completion and collect trainees National Provider Identifier (NPI). The Primary Care Loan Program stipulates that grantee organizations track their program participants for at least ten years for compliance with the service obligation period.[54] AHEC awardees are required to evaluate the impact of program activities on equity goals of workforce diversity, distribution, and practice transformation.

Diverse governing bodies: The HRSA-sponsored Area Health Education Center collaborative agreement requires that each program includes at least one center that addresses the health workforce needs of the community it serves and is governed by a community-based body that reflects the diversity of the involved community.

Strategies used to incorporate equity in application review and award decisions

Prioritization based on equity variables: Grant, scholarship, and loan funding evaluations may incorporate provisions that grant preference or priority to certain types of applicants, such as those from disadvantaged backgrounds. The Kearney Health Opportunities Program considers additional factors in their selection guidelines to include individuals from an economically disadvantaged background, first generation college students, individuals who are actively involved in communities with diminished opportunities, and those who speak languages spoken in underserved communities. The DC Health Professional Loan Repayment Program similarly awards extra points for language proficiency, specifically in Spanish, Chinese, Vietnamese, Korean, or Amharic.[55]

Funding priority is granted to institutional applicants for the MSEP if they are located in a state with two or more federally-recognized Tribes, and the THCGME awards extra points for community-based facilities: 1) located in a HPSA, 2) that serve a medically underserved community as defined in the Public Health Service Act,[56(p42)] or 3) located in a rural community as defined by the Social Security Act.[57] The HCOP is authorized to grant preference based on comprehensiveness of approach to develop a culturally competent workforce that will serve the underserved. Comprehensiveness is assessed based on student support services, program activities, and partnerships. The AHEC program gives preferential consideration to applicants from states where no program offices or centers currently exist or those who propose an expansion in an area with a HPSA score > 14.

DEI review committee: The Ruth L. Kirschstein National Research Service Award Institutional Research Training Grant requires a recruitment plan to increase diversity as a component of the grant application. During the application review process, this plan is evaluated by peer reviewers separately from the rest of the application, based on the strategies proposed to recruit participants from underrepresented groups. The committee's acceptability of the plan is based on consensus and factored into the final application summary score.

Evaluation plans: Applicant evaluation plans are often considered in the review and scoring criteria of institutional education and training grants, especially those funded by HRSA. Evaluation plans aim to hold grantees accountable for their technical capacity to assess whether the program is meeting stated objectives, continuous program quality improvement, and program impact on areas including equity. Applications for the AHEC program are reviewed based on these criteria, with specific attention paid to evaluation of "the extent to which proposed award activities will accomplish programmatic goals impacting the diversity, distribution, and development of a health care workforce that is prepared to deliver high quality care in a transforming health care delivery system, with an emphasis on rural and underserved areas and populations." The 3 criterion accounting for scoring related to program evaluation for AHEC (impact, capacity, sustainability) comprise 50 of the total 165 points possible.[58]

Need-based supplements: In some cases, individual program applicants are considered for supplemental funding based on specific provider or service shortages. For example, the Students to Service Loan Repayment Program considers provider eligibility for a $40,000 Maternity Care Target Area Supplement, aimed at increasing maternity care health professional in designated shortage areas. Eligible health workers can receive the supplement in addition to up to $120,000 in National Health Service Corp loan repayment funds.[59]

Applicant commitment to equity: The Healthy Oregon Workforce Training Opportunity (HOWTO) Grant uses explicit and transparent metrics to assess applicant's commitment to equity as part of the reviewing and scoring process.[60] First, reviewers must determine for each scoring criteria indicator whether or not the applicant's response aligns with HOWTO's values and purpose centered around access for rural and medically underserved communities and health workforce diversity. Second, 20 of the total 147 possible points awarded are dedicated to four diversity, equity, and inclusion criterion indicators, including that the "Proposal advances health equity, ethnic, racial diversity and inclusion in Oregon's health care workforce".[61]

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APPENDIX B: Recommended Response Options for Assessing Organizational Grant Applicants' Strategies for Recruiting, Admitting, and Retaining Students from Underrepresented Backgrounds

Recruitment:

- Maintains established partnerships or collaborations with community-based organizations, community colleges, minority-serving and K-12 educational institutions for purposes of increasing access and exposure to health sciences, recruiting, and/or enrolling individuals from disadvantaged or underrepresented communities[1–4]
- Utilizes an established pathway program[1,4,5]
- Hosts sponsored experiences for prospective students from disadvantaged backgrounds[1,2]
- Conducts targeted outreach to prospective trainees from underrepresented groups before, during, and after the application process[1,2,4]
- None

Admissions:

- Admissions/selection is based on a holistic review process[2,6–9]
- Accounts for candidate's socioeconomic status in application and review process (e.g., as alternative review metric, offering virtual interview options, fee waivers, travel stipends,)[10,11]
- Ensures representation among review committee members to reflect the backgrounds of trainees from targeted underrepresented groups[1,12]
- Requires implicit bias training for all applicant reviewers and decision makers[1,4,13]
- None

Support and Retention:

- Diversity, Equity, & Inclusion are institutionalized in policy and culture (e.g., through the institution's mission statement and strategic plan)[2,14,15]
- Provides direct financial support for trainees from disadvantaged backgrounds[1,4,9]
- Maintains an established mentorship or social support program available to all trainees that strives to pair trainees with staff, faculty, or peers with shared experiences or identities[1,4,12,16]
- Provides individualized counseling, advising, or other academic supports[1,9,14]
- Demonstrated efforts are in place to recruit and retain program faculty members, lecturers, and staff who reflect the cultural diversity of trainees from targeted underrepresented communities[1,4,14,17]
- Organization has a documented zero tolerance policy for discrimination and related discrimination reporting systems[1,4]
- Curriculum includes required DEI and health equity training for students/trainees[1,2,4]
- Implicit bias or anti-racism training is required for all faculty and program staff[1,4,13]
- Regularly collects and assesses data on student experience, perception of campus/institutional climate, and unmet needs[4,14,15]
- None

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APPENDIX C: Discussion of Five Socioeconomic Deprivation Indices for Consideration as an Objective, Place-based Measure of Disadvantage

- **The California Healthy Places Index (HPI)** is an evidence-based data and policy platform created to advance health equity. It combines multiple indicators across the domains of education, economics, health care access, housing, neighborhood, pollution, social, and transportation to create a neighborhood-based composite index of the social conditions that drive health. The HPI excludes race/ethnicity from the composite index yet designed it to incorporate other measures capturing the results of segregation.[1] **Limitations:** HPI mapping is only available for the state of California so could not be used to map disadvantage for applicants who attended high school in other states.

- **The Area Deprivation Index (ADI)** has been recognized as the "most heavily independently validated, scientific tool for US neighborhood-level (exposome-level) disadvantage that exists today."[2] It identifies block-group level socioeconomic deprivation to inform program planning, health delivery, and policy and is a composite measure of 17 census variables in the domains of education, income/employment, housing, and household characteristics.[3] It does not include a race or ethnicity variable. **Limitations:** Individual measures are not standardized, with one analysis finding that just 2 variables—median home value and median income—account for all the variation in scores.[4] The ADI may also mask inequities in health outcomes in areas with high property values and cost of living.[5,6]

- **The Social Vulnerability Index (SVI)** was developed to help identify vulnerable communities in emergency preparedness and disaster response,[7] yet it has been widely applied in health services research, practice, and policy. It is based on 15 indicators in the themes of socioeconomic status, household composition and disability, minority status and language, and housing type and transportation**.** It does not include housing costs, which can lead to the misclassification of urban areas as not being deprived. **Limitations:** The index's inclusion of race/ethnicity may spur legal challenges.

- **The County Health Rankings** is a composite ranking of counties within each state based on health outcomes and the elements that affect them (health behaviors, clinical care, social & economic factors, and physical environment).[8] It has been referred to as a "population health checkup", with the goal capturing the interest of media and policymakers to mobilize action toward community health. **Limitations:** As its name suggests, this tool provides only county-level rankings (not census tract), which is likely to mask within-in county variations in outcomes. Historic controversy around the use of rankings may result in hesitancy on the part of government agencies to use them. Additional limitations are discussed in the literature.[9]

- **The Structural Racism Effect Index (SREI)** is a multidimensional census tract–level summary score that considers the legacy of structural racism in the resources available to communities.[10] It is based on nine domains that do not include race/ethnicity: built environment, criminal justice, education, employment, housing, income and poverty, social cohesion, transportation, and wealth. The SREI was found to correlate more strongly with many health outcome measures than several alternative indices that are widely used. Tract-level domain scores, SREI scores and percentiles, and other details are available online.[11] **Limitations:** The SREI has only recently been developed and thus an

evidence base for its application in health practice and policy does not yet exist. Although the SREI is race-neutral, the use of the term “structural racism” in its title may invite scrutiny in this sociopolitical climate.

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