Grand Challenges in Health Equity

Why this topic? And why now?

Health inequities diminish the lives of people in Colorado and around the world who are marginalized by ethnicity, gender, geography, income, and other social factors. For example, Coloradans marginalized by race and ethnicity report lower levels of physical and psychological health than peers as do people living with greater economic insecurity. Meanwhile, LGBTQ Coloradans report poorer psychological health as gender-based violence affects the psychological and physical health of girls, women, and gender nonbinary people. Differences in health are rooted in a host of persistent, structural problems that urgently require attention, such as barriers to accessing healthcare. Ultimately, health inequities manifest in terms of costly chronic diseases, infant mortality, and decreased life expectancy.[1]

Emerging from three years of global pandemic impacts, health inequities have increased with severe consequences for individuals and communities. As health scholars and other leaders nationally have described, the United States faces a crossroads where we must decide whether (and if so, how) to address the root causes as well as consequences of health inequities that were revealed and worsened by the pandemic.[2] Despite important national conversations about the best approaches to addressing health disparities and social determinants of health, comprehensive efforts to build meaningful systems to better community and overall health within the U.S. remain stagnant. Not surprisingly, the Denver and Metro Area's overall health mirrors the poor health outcomes visible nationally. Yet, eliminating health inequities is the best path forward to ensuring that individuals and communities can thrive, socially and economically, in Colorado and across the country.[3]

The Grand Challenges in Health Equity initiative brings together hundreds of DU faculty, staff, and students with community members to end health inequities through leading-edge research and education in health science. Together, we will:

- Uncover the factors that drive and sustain health inequities in Colorado
- Apply leading-edge research to the design and testing of solutions to end health inequities – from policy and technology to behavior health interventions
- Prepare a new generation of students and professionals in Integrative Health Sciences for an equitable future

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[1] See, for example, Colorado health Access Survey, 2019; Colorado Health Equity Report, 2018; Colorado Department of Public Health and Environment, 2021.
https://www.coloradohealthinstitute.org/sites/default/files/file_attachments/2019%20CHAS%20Storybook.pdfhttps://cclpvitalsigns.org/
http://leg.colorado.gov/sites/default/files/images/5_cdphe_health_disparities_and_equity_0.pdf

[2] For example, in Colorado: https://www.denverpost.com/2021/08/01/covid-health-equity-disparities-colorado/; and nationally: Lee, I. J., & Ahmed, N. U. (2021). The Devastating Cost of Racial and Ethnic Health Inequity in the COVID-19 Pandemic. *Journal of the National Medical Association*, *113*(1), 114–117. https://doi.org/10.1016/j.jnma.2020.11.015

[3] For example, LaVeist, T. A., Gaskin, D., & Richard, P. (2011). Estimating the economic burden of racial health inequalities in the United States. *International Journal of Health Services: Planning, Administration, Evaluation*, *41*(2), 231–238. https://doi.org/10.2190/HS.41.2.c

What will be the outcomes and impacts of this initiative on society when funded?

This project will advance health equity by connecting faculty, staff, and students from across the University with community- and system-based colleagues in facilitated, fast-paced collaborative teams designed to catalyze breakthroughs and innovation. The university-community teams will pursue shared agendas to create measurable change in health inequities while advancing discovery, teaching, and community impact. Together, teams will:

> **Uncover the Factors that Drive and Sustain Health Inequities in Colorado**. For example, rapid research will lead to a new, transdisciplinary understanding of the complex roots of health inequities outcomes from the social determinants of health to healthcare access as well as technological and cultural barriers. A portfolio of basic and preclinical research will be available to guide the development of solutions.
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> **Design and Test Solutions to End Health Inequities**. Teams will test candidate interventions to end health inequities, from policy and technology to behavior health interventions. For example, projects might test scaling of screening and intervention for trauma across the lifespan; dissemination and implementation science through DU clinics; integration of the humanities into health systems.
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> **Prepare a New Generation of Students and Professionals in Integrative Health Science for an Equitable Future**. Building on the expertise of and experiential learning opportunities through the teams, DU will develop graduate and postgraduate micro-credentials in integrative health science that builds on DU's behavioral health and humanities expertise. This will result in the integration of interprofessional education at undergraduate, graduate, and postgraduate levels.

To realize societal outcomes and impacts, university-community action teams will be organized around specific issues that arise from and/or contribute to health inequities, such as houselessness, interpersonal violence, and early mortality. Charged with speeding the translation of basic research into solutions ready for testing and scaling, teams will be comprised of Fellows with expertise across a range of research methods—from basic science to applied research—and disciplines—from STEM and business to humanities, ethics, and law. In addition, teams will include diverse expertise in approaches to solutions—from policy and technology to systems and behavioral health.

Fellows will include DU faculty and staff and new postdoctoral and graduate student research assistant (GRA) positions. External Fellows will be invited from diverse settings, ranging from hospital/healthcare systems (e.g., Craig Hospital, CU Health, Denver Health, National Jewish) to community-based organizations, including healthcare advocacy and promotion organizations (e.g., Health Promotors from Project Protect Food System Workers). The Fellow experience will be a prestigious, world-class opportunity to pair work to advance public good discovery for health equity with professional development and growth, blending the best of national models for seeding collaboration and impact, from national synthesis centers to the Stanford Center for Advanced Study of Behavioral Sciences. The fellowship approach will allow teams to evolve work over time by inviting in new participants as the collaborative network builds and novel

partnerships are identified. Ideally, Fellows will spend two years working in-depth with teams, though the facilitated approach (described below) will flexibly support team members to rotate off/join as needed. Following the in-depth work with the team, Fellows will be invited to continue their affiliation and work with the initiative in leadership roles. Through leadership roles, the goal is to sustain work and support new cohorts of fellows while providing leadership opportunities and pipelines. Thus, the overall approach is designed to seed a growing network of faculty, staff, and community partners over time working towards health equity. In addition, undergraduate and graduate students will connect to teams via classes and research internships, offering a unique and distinctive learning experience.

The team approach will be built around one-year, iterative cycles. Each one-year cycle will begin with a facilitated process through which the team members identify a shared vision for a more equitable future in their issue area that is mutually beneficial in terms of community impact, discovery, and education. Over the first month, teams will identify existing research, including by DU scholars, on the factors that drive and sustain that inequity. This focus on root causes will result in early scholarly products (e.g., systematic review, white papers, or policy briefs) that will demonstrate effective collaboration among the group, which will be essential for external funding proposals, and provide a roadmap for designing strategic translational research and teaching activities. The team will identify seed projects aimed at multiple stages of the translation chain: basic research, preclinical research, clinical research, clinical implementation, and public health.[4] Seed projects will be key to building external funding. Projects will be implemented over the subsequent 10 months, with a focus on project scopes that support rapid timelines to advance innovation and discovery while generating pilot data and products that can be used to secure external funding and scale promising ideas into larger research projects. Over the final month of the cycle, the team's work will focus on identifying next steps to inform the subsequent one-year cycle; and strategies for sustainability, from efforts to secure external funding to public communication and policy work. The new one-year cycle will allow for iteration, building on achievements and lessons learned to realize the team's vision for measurable change.

A coordinating structure will be built on best practices in national grand challenge and synthesis center initiatives, such as the UCLA Grand Challenge for Depression, which has rapidly accelerated research along the translational continuum for public impact with significant external investments. Drawing on such national models, the Grand Challenges in Health Equity approach will support the launch and success of several teams per year. Each team will receive robust backbone support that includes (but is not limited to) facilitators trained in collective impact and results-based accountability approaches to collaborative change; staff support for coordination and logistical activities as well as external funding proposal development and management; and pilot project funding. These supports will ensure that teams can focus on building effective teams and quick iteration to seed high impact projects that will benefit the public good, advance discovery and teaching, and increase external funding. Further, staff support will be key to building connections beyond the initial team over time to grow the ecosystem of people connected to the team's work. This will include both internal (e.g., new faculty) and external (e.g., policymakers, practitioners, and journalists) audiences.

[4] See, for example, National Center for Advancing Translational Sciences: https://ncats.nih.gov/translation/spectrum.

Importantly, the teams will offer transformative learning opportunities for undergraduate and graduate students as well as health professionals on integrative health. Experiential learning through internships and community-engaged coursework will be key to innovative programs in Integrative Health Sciences supported through this approach. For example, DU will develop a postgraduate Integrative Health micro-credential for health professionals to build knowledge and skills to work more effectively across disciplines to address health, moving beyond simple disease detection and intervention. These micro-credentials will provide best practices across medical and behavioral health to increase health outcomes. In addition, we will take advantage of synergies with revisions to the undergraduate Wellness Minor and Living and Learning Communities to focus on integrative health and health equity. Experiential learning components will connect to the teams in addition to the potential for alignment with existing programs, such as Pre-health Education & Advising.

Highly successful teams will be in a position to spin-off into center or institute structures; however, increasing the number of centers and institutions is not, in and of itself, a primary goal of this approach. Rather, we seek to build the central coordinating structures that will allow DU to bring our trans-disciplinary expertise to bear over time on the shifting landscape of health inequities as well as to provide a roadmap for other team-based approaches to public problem-solving.

By achieving these outcomes, DU will achieve distinction nationally as a leader in advancing university-community collaboration across disciplines to lead to measurable improvement in communities. This demonstration is critical at a time when a skeptical public questions the proposition value of higher education and the impact of universities in the lives of their communities. The DU Grand Challenges in Health Equity initiative will be an exemplar of what is possible when higher education institutions advance discovery and teaching for public impact in health sciences, which will inspire connections to Denver communities in myriad forms – from policymakers and journalists turning to DU for expertise and problem solving to alumni engagement and philanthropic support.

An investment of $50-$100 million will ensure an effective coordinating structure to provide backbone support for the teams; funding for faculty and external Fellows to dedicate time to the fast-paced teams during the academic year and across summers; postdoctoral and graduate student training positions; undergraduate scholarships and student employment positions; project funds; professional development, including conferences; course development for connected classes; and related costs. In terms of related costs, teams may have space needs in other parts of the state for rural health equity initiatives or travel costs.

Why DU?

Relative to other higher education institutions, including those affiliated with medical schools, DU has several distinct advantages for leading a grand challenge initiative to advance health equity. First, DU's outstanding faculty and staff include experts in health and health equity working at all stages of translational research – from cells to health systems, basic science to community applications, and prevention to treatment of disease. Further, the initiative's focus on

health equity builds on the existing strengths among DU's individual faculty and departments to connect scholars in new ways across disciplines and units, including College of Arts Humanities and Social Sciences, Graduate School of Professional Psychology, Graduate School of Social Work, Morgridge College of Education, Natural Sciences and Mathematics, Ritchie School of Engineering and Computer Science, Sturm College of Law, University College. The breadth of connection points across disciplines will drive innovation and discovery.

Second, DU has extensive expertise in behavioral health across departments and units, which creates opportunities for distinctive approaches to health equity work relative to initiatives nationally that focus primarily on detecting and treating diseases. For example, the behavioral health expertise will be essential to advancing strategies to promote change among individuals and systems to build a more equitable future, before disease management becomes the only option. Imagine what is possible, for example, when collaborative teams connect work by faculty and students investigating the roots of biases in perceptions of patients marginalized by poverty and racial/ethnic identity to that of colleagues with expertise in individual- and system- change to design and test innovative strategies. Further, imagine what is possible in terms of the uptake of strategies into existing systems when DU alumni bring what they learned from participating in these collaborative teams as students to the workforce in health-related positions in Colorado and around the country.

Third, DU is ready for transformative change because we have tested, refined, and identified effective strategies to promote inter- and trans-disciplinary collaboration for public good impact. For example, DU Grand Challenges is a university-wide initiative designed to advance community-university collaboration for public problem solving. DU Grand Challenges focuses on three issues essential to thriving communities, each of which connects to health equity: improving daily living, increasing economic opportunity, and advancing deliberation and action for the public good. In addition, DU has tested Knowledge Bridges, which provide a roadmap into the structures and resources necessary to seed collaboration and impact. Further, coordinating centers, including Center for Community Engagement to advance Scholarship and Learning (CCESL), Interdisciplinary Research Institute for the Study of (in)Equality (IRISE), Knoebel Institute for Healthy Aging (KIHA), already provide professional development and support for faculty, staff, and students, which will be essential to the campus ecosystem for scaling impact and transformation with this initiative. Finally, the project proposed by the Collaborative for Mental Health and Wellness to develop a community-based mental health clinic will have important synergies with this initiative, from shared space for community-based work to experiential learning opportunities for trainees across the two projects.

Prior pilot initiatives show that measurable progress on health equity in Colorado at scale is possible with new investments in teams designed to build shared agendas for action. Consider the impact that a group of faculty, staff, students, and community members had when they came together to address housing insecurity in a new way. Through the DU Grand Challenges Collective Impact Cohort program, this group – many of whom had never met or worked together before – identified shared goals to improve safety for people living in their cars. Housing insecurity and houselessness, of course, are tangled up with health inequities, increasing risk of victimization and health problems among those who are unhoused. Working with a newly formed Colorado Safe Parking Initiative (CSPI), the Cohort carried out activities

that resulted in measurable change. At the end of their participation in the Cohort program, 10 SafeLots were newly opened in four counties with more than a dozen additional lots in the pipeline. Community leaders up and down the Front Range began to champion the need for safe parking for individuals experiencing housing instability and living in their vehicles. Further, the effort resulted in funding to build a sustainable initiative, illustrated by a CSPI receiving $150,000 in Emergency Services funding through the Colorado Department of Local Affairs. This scope of impact was possible with modest investment to recognize Cohort members' time, very limited staffing support for facilitation, and $100,000 for project costs. Transformative change, then, is possible if an initiative built on this approach brings significant investment in faculty, staff, and community fellows' time, adequate pilot funding, and robust staffing focused on ensuring the team's success and sustainability.

Thus, we know that the facilitated collaboration approach built around shared aspirations, reciprocity, and results-based accountability will advance research and knowledge, student learning, and community impact. We also know that there is faculty interest in these approaches. For example, pilot DU Grand Challenges and Knowledge Bridges processes have yielded greater interest than capacity for the programs in terms of staffing and financial resources. We see this most recently in a call for the applications to a collaborative DUGC Fellows program offered through the Collaborative for Mental Health and Wellness, through which a graduate student, faculty, community team is pursuing a project that advances research on service access among Spanish-speaking families with children ages 0 to 5 while also seeking to improve access.

Increasing compositional diversity, inclusiveness, and justice at DU.

With a focus on university-community collaboration to advance health equity, this project will increase compositional diversity, inclusiveness, and justice at DU. For example, higher education research indicates that historically marginalized faculty and staff are more likely than their peers to pursue community-engaged work and seek to apply their academic work to social change. Thus, this high-visibility initiative will support recruitment and retention goals by demonstrating that DU values engaged work and public good impact. Further, the initiative directly addresses barriers to community-engaged work and workload inequities that affect marginalized faculty by elevating and recognizing the importance of their work and providing concrete resources in terms of time and funding for projects and student involvement. In addition, as the impact and reputation of DU's approach builds, our external fellows slots will be a sought after opportunity for health equity leaders from across the region and national to spend sabbaticals working on the innovative university-community teams. Building on both traditional academic sabbaticals and innovations in community expert programs, such as through IRISE's Community Scholars Program, we will attract diverse thought leaders to DU.

The fellowship approach will allow us to build a world-class collaboration and training experience that will create a more inclusive and equitable pipeline to STEM, health, and connected careers. For example, the initiative will provide new pathways to health and STEM majors, graduate programs, and careers by linking scholarships to participation in the teams. This approach would build on thriving programs, such as Puksta Scholars and Colorado Women's College Leadership Scholars, where students join intentional communities where they connect their academic interests and social justice passions across their DU career. Additionally, graduate

and postgraduate training will prepare a new generation of scholar-teachers for trans-disciplinary research for public impact. The inclusion of external Fellows will broaden DU's reach and expertise and introduce new colleagues to DU, demonstrating our commitment to public good research for a more equitable future and creating opportunities to strengthen recruitment of new colleagues.

Advancing DU's commitment to the public good in a sustainable way.

The Grand Challenges in Health Equity approach addresses an enormous public problem: health inequities, which diminish the lives and potential of individuals and communities. This approach scales work to realize measurable change by uncovering the factors that drive and sustain health inequities; designing and testing solutions to end health inequities and preparing a new generation of students to use integrative health approaches to build a more equitable future. Further, the approach emphasizes university-community partnerships for problem-solving that are mutually beneficial and reciprocal, which is a cornerstone of high-quality community engagement. This work, then, contributes to DU's overall approach to community-engaged, public good research, aligned with our Carnegie Elective Community Engagement Classification. Further, the proposal emphasizes building on existing strengths for public good impact in a way that is sustainable. For example, the team model is designed to advance networks of faculty, staff, and students working on collaborative health equity projects. The mix of DU and external collaborators as well as the iterative nature of the project design will encourage sustainable growth of the initiative, including pathways for faculty leadership.

Project sustainability: Student interest, enrollments, and tuition revenue. As reflected across a range of programs – from Pre-Health to DU Grand Challenges – there is great student interest in health careers as well as health inequities. Building on this foundation of student interest, DU is currently exploring plans to build our strategic allied health programs, such as Physical Therapy, Occupational Therapy, Speech Pathology/Audiology and Physician Assistant degree programs, with key partnership across Natural Sciences and Mathematics (NSM), Ritchie School of Engineering and Computer Science (RSECS), and Graduate School of Professional Psychology (GSPP). The development of such programs will provide synergies with the current proposal and contribute to expanding the population of students interested in this initiative. Beyond those long-term plans, the current initiative will connect to other curricular opportunities to deepen student interest, grow enrollments, and increase tuition revenue. Connections include revisions to the Wellness Minor and Living and Learning Communities mentioned above as well as new program opportunities for post-graduate micro-credentials in integrative health. These micro-credentials will build on DU's unique position in terms of deep behavioral health expertise with relevant trans-disciplinary connections, from engineering and law to humanities and bioethics. A series of post-graduate micro-credentials will provide unique, trans-disciplinary training to health professionals to use integrative health approaches as a strategy to advance health equity. This movement towards micro-credential aligns with market research indicating that employers near-universally share a positive view of micro-credentials for their employees.[5]

[5] https://www.insidehighered.com/quicktakes/2023/02/23/employers-are-all-microcredentials-survey-shows

Project sustainability: External funding through grants, contracts, and philanthropy. The seed projects supported through initial investments will demonstrate the effectiveness and public good impact of the university-community collaborative team approach while providing key pilot data to support competitive external grant proposals and contracts. For example, the Grand Challenges in Health Equity approach is well-aligned with transformative funding opportunities, such as the National Science Foundation's Accelerating Research Translation (ART) Program. In addition, the National Institutes of Health (NIH) offer many special program announcements around social determinants of health/health inequity. Further, the National Institute on Minority Healthy and Health Disparities features several funding opportunities.[6] In addition, several state agencies and foundations would be interested in the initiative's potential for affecting health equity in Denver and Colorado, such as the Boeing Foundation, Caring for Denver, Caring for Colorado, Centura Health Equity & Advancement Fund, Colorado Health Access Fund, The Denver Foundation, Rocky Mountain Health Foundation, and Sturm Family. Further, this initiative would be well-aligned with efforts to connect practicum placements for graduate students in clinical service to marginalized populations to external funding through government and private funding. Finally, we already have evidence of philanthropic interest in supporting student learning in collaborative, trans-disciplinary teams described here through DU Grand Challenges. For example, the Arthur Vining Davis Foundations has invested $400,000 to date to scale learning opportunities for students through grand challenge work as well as invited a new proposal for $350,000.

[6] For example, see https://www.nimhd.nih.gov/ and https://www.nimhd.nih.gov/funding/nimhd-funding/active_foa.html.