Innovative Approaches to Building a Community of Practice Around Leveraging Data to Achieve Equity

How does one begin building a community of practice that is focused on leveraging data from multiple sources to gain an understanding of how doctoral recipients are funded during their academic careers? And why is it important to know how this differs by research field, race and ethnicity, and sex?

Dr. DeShawn Preston at the UNCF’s Institute for Capacity Building (ICB) has a goal to enhance the research capacity of Historically Black Colleges and Universities (HBCUs) and Hispanic Serving Institutions (HSIs) to inform the advancement of Black and brown populations in postsecondary education across the college to career pipeline. Working with the Coleridge Initiative and the support of the Bill and Melinda Gates Foundation, he is proceeding ahead with an innovative program in which participating institutions will join one of three cohorts (Alpha, Beta or Gamma) with access to a broad range of data sets through the Coleridge Administrative Data Research Facility (ADRF).

Dr. Preston believes that analyzing data on federal funding that has been combined with data on doctoral recipients can help to understand the impact that changes in federal funding have on the composition of the doctoral student pipeline. Most obviously, when federal funding for research is unstable, the career trajectories of students, post-doctoral workers, and researchers can be negatively affected. In addition, grant funding in specific research fields shapes the research interests of new doctorates. Funding cutbacks or funding volatility can disproportionately affect minority populations, having major ripple effects on the pipeline of future scientists and researchers across many disciplines. Reducing the diversity of our future scientific community will hamper the development of important innovations that can improve life in our nation and on our planet and could lead to increasing inequity across society.

“Recognizing that strong, steady increases in Federal R&D funding may not always be feasible, it is important for Federal agencies, Congress, and research institutions to consider how best to mitigate the adverse effects of budget conditions on career paths,” says Dr. Preston, “This is especially true for Black and Brown people living in America. The pandemic has shown us just how critical it is for America to further their research on these populations and diversify the community of scientists.”

ICB focuses on providing technical support for institutions in discrete areas including institutional advancement, enrollment management, strategic finance, and governance. In 2015, they launched the Career Pathways Initiative (CPI) within ICB to support a cohort of 24 institutions (a mix of private and public HBCUs, and a PBI) in dramatically improving academic and career outcomes for their students. Dr. Preston has been responsible for redeveloping a transformation assessment tool for institutions of higher education, and he has led several projects that provided professional development to personnel from HBCUs who were interested in honing their data skills. Currently, he is focused on providing HBCUs and HSIs and
their faculty with guided training and capacity building to enable production of critical research with confidential microdata. Much of those data are held by federal agencies such as the National Science Foundation, the National Center for Science and Engineering Statistics, the National Center for Education Statistics, the US Census Bureau, the Bureau of Labor Statistics, and a university consortium, the Institute for Research on Innovation and Science (IRIS) program known as **UMETRICS**.

Dr. Preston’s Alpha cohort, consisting of 3 HBCUs and 3 HSIs, will receive three separate training courses on the ADRF platform, as well as conduct curriculum development and facilitation, including: (1) identifying research questions; (2) creating core data sets; (3) developing Jupyter Notebooks; (4) developing project templates; and (5) leading lectures and discussion conversations about their activities. The Beta and Gamma cohorts will then follow and delve into selected research questions.

The Coleridge ADRF is an ideal platform for capacity building. Originally built as a pilot project at New York University funded by the US Census Bureau to inform the decision making of the Commission on Evidence Based Policymaking, the ADRF enables secure access to analytical tools, data storage and discovery services, and general computing resources for users, which now include federal, state, and local government analysts and academic researchers. What is unique about the ADRF is that the platform was developed as part of a collaborative training program in applied data analytics initially geared to federal employees, and users access the platform as part of the training program. The facility operates as a cloud-based computing environment, is FedRAMP certified, and has Authority to Operate (ATO) from multiple federal agencies.

Some notable projects that have been facilitated and hosted by Coleridge include the MidWest Collaborative, a state-driven regional collaborative that shares data between states with a focus on understanding unemployment to reemployment pathways, how postsecondary education affects migration in and out of states and workforce transitions, and other high priority questions that can only be answered by linking intrastate and interstate data. The unemployment to reemployment data analytics, for example, provides information on local unemployment behavior that is relevant, timely, and actionable to state workforce boards, using an individual person as the unit of analysis within local geography as a context. Using high frequency data such as weekly Unemployment Insurance claims enables states to implement effective intervention strategies that are aligned with the highest impact subgroups in local areas.

Most importantly, the data are identified, cleaned, and linked by the people who need to continue to work with the data in their on-going work, through the training program. That type of meaningful and lasting capacity building is what makes the Coleridge program so attractive to Dr. Preston. “**The Coleridge Initiative has given HBCUs and HSIs an opportunity to ask criterial questions and conduct research on Black and Brown students that will have a major impact on their future.**”
Building a community of practitioners is one of the outcomes of bringing people together in the right training environment. Without the community, society’s inequities tend to be seen through a much narrower focus. For example, the COVID pandemic highlighted for many people not only the wide-ranging disparities by race and ethnicity in experienced health outcomes, but that the disparate outcomes were the result of many factors such as employment, access to care, income, housing, nutrition, and other elements that can affect people’s lifetime health. Bringing together data scientists, health providers, social scientists, economic development analysts, and others to view data more holistically can result in the type of insights that lead to major innovation and change in traditional approaches to government programs and services, as well as private sector behaviors.

In addition, the value of collaboration around data extend to developing common standards and data models and sustained networking across groups that otherwise might not share data. Several new products have been developed out of such collaborations, such as the Unemployment to Reemployment portal hosted for the MidWest Consortium by the state of Illinois and a Multistate Post-Secondary Report hosted by the state of Kentucky Center for Statistics.

Building capacity to work with data at HBCUs and HSIs will have long lasting impacts, as communities of practice grow and network, and researchers are able to answer key questions that lead to an understanding of how federal funding decisions and policy directions can have sustained effects across multiple fields. Using an innovative approach to developing capacity will provide a practical, affordable, timely path to achieving the vision of UNCF ICB’s Dr. Preston and his academic colleagues as they forge ahead with building a community of practice that leverages data to achieve equity.

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