Expanding the Global Network

The HCPDS collaboration with the international INDEPTH network promises strong returns for both organizations in their ongoing work

Through the relationship, at one year and counting, is still in its early stages, the collaborative efforts of Harvard’s Center for Population and Development Studies and the global INDEPTH Network pave the way for increasingly valuable exchanges of data and advanced training with fruitful results to date.

INDEPTH, which is an acronym for The International Network for the Demographic Evaluation of Populations and Their Health in Developing Countries, is “a global network of members who conduct longitudinal health and demographic evaluation of populations in low- and middle-income countries,” as stated on their website, www.indepth-network.org.

According to HCPDS Director Lisa Berkman, the year-long relationship with INDEPTH has “blossomed” as a number of Pop Center faculty and fellows have already been able to tap the organization’s vast, long-term data collection from 37 sites in 19 countries, many of which are staffed by local researchers.

“INDEPTH sites are really important because they are complete censuses of specific areas … and it is interesting to see how communities evolve, and what shapes patterns of health,” says Berkman, who, along with a handful of Pop Center colleagues, traveled to Ghana in October to take part in INDEPTH’s Annual Meeting. “Specifically, INDEPTH gives us a lens into the complexity of relationships in a geographic area.”

On the reciprocal side, Berkman adds that INDEPTH researchers have been, and will continue to be, welcomed at the Pop Center to participate in training for advanced methods of research and data collection, as well as capacity building. “We hope it becomes an exchange,” says Berkman, “that is truly valuable both ways.”

A Visit to Ghana

In September, Assistant Professor of Global Health Till Bärnighausen and Research Associate Jocelyn Finlay—both from the Department of Global Health and Population—participated in INDEPTH’s Annual Meeting in Ghana.

According to Bärnighausen, an epidemiologist and physician whose work is, in part, focused on the determinants of HIV acquisition and transmission in rural

Participants of the INDEPTH Annual Meeting enjoyed the local commercial fishing in Accra, Ghana.

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The Benefits of Partnerships

Nearly a decade ago, the World Health Organization’s Multi-Country Studies unit embarked on a study to survey thousands of participants in a range of countries with questions relating to income, work history, risk factors in their lives, along with well-being, happiness, and health. Known as the SAGE surveys (the Study on Global Aging and Adult Health), this information—valuable for both its comprehension as well as longitudinal perspective—feeds and influences much of the Pop Center’s research, in particular the work focused on issues of ageing populations.

In significant part, the success of these surveys in many low and middle income countries is due to the work of INDEPTH, a nonprofit, international organization that conducts health and demographic surveillance on 37 sites across 19 countries. As our lead story in this issue indicates, we have deeply benefited from our own collaborative efforts with INDEPTH over the past year, and were able to continue to build upon these existing ties during a fall trip to the organization’s Annual Meeting in Ghana.

For those of us engaged in this work at the Pop Center, INDEPTH has unique information on populations in developing countries that permit scientists to follow patterns of health over decades of time, giving us a vivid and multigenerational lens into the complexity of relationships in particular geographic areas. INDEPTH studies are among the strongest in the world in characterizing health, fertility, and immigration in their respective countries. It is an enormous honor to be able to partner with them.

By the same token, we were more than pleased to host workshops last spring for a number of INDEPTH’s researchers who joined us here in Cambridge to partake in networking with our faculty and fellows, as well as training in advanced methods. The information flow goes in both directions. We learn from each other. INDEPTH scientists have unique perspectives on population health in the countries, and they have keen insight into the determinants of health. The Pop Center has leaders in advanced quantitative methods that we can share with INDEPTH scientists.

When it comes to globally based work, a bi-directional collaboration such as this is truly invaluable as we continue to delve into the issues that we know have profound effects on all facets of population health: the burden of disease, resources for sustainability, social determinants, and access to health care, among so many others. We look forward to the continued growth of our ties with INDEPTH along with the capacity building and mutually beneficial exchange it brings as we embark on this New Year. We are very fortunate to build on this developing partnership.

—Lisa Berkman
We know that smoking causes cancer, yet we still light up. We know that overeating causes obesity and diabetes, yet we still overeat. We know that exercise makes us healthier; yet we can’t resist the couch’s siren song.

We all want to be healthier, and we know how to become so. Yet we just don’t do it.

S.V. Subramanian, associate professor of society, human development, and health at the Harvard School of Public Health and a faculty member at the Center for Population and Development Studies, has heard all of the theories explaining why living a healthy lifestyle is so difficult. We’re predisposed to pack on pounds to survive the famine that, in olden days, was certainly coming. We’re addicted to the nicotine in cigarettes and the fat in burgers, which get their hooks into us. Convenience is key: Who can drag themselves to the gym every day and cook healthy meals of nuts, fruits, and vegetables when the golden arches beckon?

Subramanian understands that those theories may help explain our resistance to things that are health promoting. Indeed, explanations based on the idea that we are programmed to be who we are and do what we do appear to be returning with some force in recent years with an explosion of genetics research.

But he feels that this has often come at the exclusion of other factors. In particular, the idea that our environments—the places where we live and work and play—may also be important.

“If it’s environment, then there are levers we can pull,” Subramanian said.

Subramanian has embarked on a study that will examine the link between health and location. The study will utilize several longitudinal nationwide data sets to get to the roots of the linkages between neighborhoods and health.

In doing so, he’ll compare health statistics such as those gathered by the Framingham Heart Study, which recorded health outcomes of three generations and followed people as they moved around the country. He’ll probe the age when healthy behavior is formed in the National Longitudinal Study for Adolescent Health, which examines 9- to 16-year-olds. The third data set is a national health and retirement survey of those 50 and older who were recruited in 1992 and revisited several times since then.

Subramanian also plans to use data from national geographic information systems (GIS) and plot the locations of businesses that might be detrimental to health, such as liquor stores and fast-food restaurants, as well as those that might be helpful to maintaining a more beneficial lifestyle, such as health clubs and parks. He can overlay that information with data from the studies and census data on income, race, and ethnicity, creating a rich picture of health and location.

“There’s a thought that poor neighborhoods are underserviced, but we don’t know if that’s true,” Subramanian said.

Subramanian, who received an investigator award in health policy research from the Robert Wood Johnson Foundation to pursue this work, said the effort is like finding hot spots, places that are both socially and resource disadvantaged. In addition, he said, instances when these two aspects do not appear together may also offer interesting insights.

Though medical science often looks to intervene at the personal level—helping a patient to make healthy choices—the research may show that there are also effective interventions that can be made at the neighborhood level, such as tax cuts for health-related industries to move into a neighborhood, or incentives for nonprofits to conduct activities that encourage better health.

“What are the things that we can change about a place without having to move the people?” Subramanian said. “It’s an interesting public policy question: Should interventions be at the person level or a higher level, a school or neighborhood?”

One unusual wrinkle that Subramanian is planning to investigate is the extent that free will plays in people living in unhealthy neighborhoods. People generally choose the places where they live, and while some seek parks and good schools, others may select for other factors. Though there is a myth of social mobility in this country, Subramanian said it is actually quite difficult to change social class, and most people end up in neighborhoods like the one they left out of constraints or choice.

“We can learn about health-seeking behavior,” Subramanian said. “I want to quantify how much health and health-related conditions drive the choice of neighborhoods.”

Subramanian said examination of that last factor is important because it has been raised in critiques of other studies, and Subramanian wants to bring data to bear on it.

It’s important, Subramanian said, to understand that exposure to neighborhood landscapes doesn’t equate to taking a fast-acting pill or poison. Instead, effects of neighborhood conditions may lag exposure or accumulate over time. In addition, the life stage at which one is exposed may also matter. When the three-and-a-half-year study is completed, Subramanian plans to write a book on health and disadvantage in American neighborhoods.

“If you have an environmental exposure in a neighborhood, it’s not going to show up for a long time,” Subramanian said. “If you’re exposed in utero, it may not show up for 25 years.”

—Alvin Powell
Harvard Staff Writer
Reprinted with permission of the Harvard Gazette
Can we think about the welfare state—the system of social protection of governments to guarantee basic needs—as a mechanism for immigrant incorporation and social cohesion? I became interested in this question while coordinating a humanitarian assistance initiative aimed to facilitate the integration of Colombians fleeing from warfare into Ecuadorian territories. I witnessed how the targeted nature of a variety of humanitarian programs (versus a joint initiative) hindered the incorporation of refugee populations by destroying the social cohesion of the host communities. This realization made me reconsider our strategy and I started designing projects in which our donors would allocate resources not only for the newcomers, but also for needy locals, a move to prevent animosity and promote social incorporation. Moving onto a more universal approach—which included, for example, the provision of school supplies for both Colombian and Ecuadorian children—fostered a positive attitude toward the refugee population which, in turn, facilitated their social cohesion of the recipient community.

Collective research in this area of study—most of which has looked at associations, not at causal relationships—has established that the welfare state can both create and destroy social capital, and therefore the social cohesion of a given society, depending on the design of their social policies. The hypothesis is that the role of the welfare state as a generator of social capital is not exclusively a question of welfare effort (welfare expenditure) but of welfare design (welfare scope). Specifically, some scholars have posited that the degree of universalism in a given welfare regime, as opposed to its reliance on residual programs, is related to the amount of social capital (or lack thereof) of a given society. Building on this literature—and in collaboration with S.V. Subramanian, professor at the School of Public Health and Mary C. Waters, professor at Harvard’s Department of Sociology—we have put to the test these two competing hypothesis in Europe given the diversity of welfare designs across countries.

Most research on this topic has looked at the associations between welfare and social capital. This approach has not allowed for obtaining evidence that the welfare state impacts people’s social capital and it is not vice versa. In addition, past studies have compared a limited number of countries which jeopardizes the robustness of the results. As an interdisciplinary team, we employ an innovative approach which combines techniques from economics and sociology. From economics, instead of using likelihood-based methods, we use Bayesian inference with Markov chain Monte Carlo (MCMC) algorithms to fit the multi-level models. This approach has the advantage of yielding to more robust estimates with constrained sample sizes at the highest level of analyses. In addition, Bayes’ theorem is also more appropriate than maximum likelihood theory when fitting models with outcomes that cannot be observed directly, such as social capital. Another advantage of this approach is that it allows fitting complex models, such as cross-level interaction designs, with multiple parameters. In addition, we employ an instrumental variable strategy to overcome the limitation of endogenous relationships between the welfare state and social capital outcomes presented in past literature. We are also incorporating methods from sociology by examining how the welfare state shapes the social trust and the social participation of different groups: the native-born, the foreign-born and second-generation immigrants.

The results suggest that welfare matters for the incorporation of immigrants and the social cohesion of recipient societies. In other words, universal social policies which do not single-out immigrants as a societal burden may be an efficient mechanism to facilitate not only the incorporation of newcomers and their descendants, but the social cohesion of recipient communities. Overall, the social trust—the “golden measure” of social capital which speaks to relationships among groups of people—of immigrants’ descendants is closer to the social trust of natives than to the social trust of their parents. In addition, welfare spending, particularly spending on universal benefits, is positively related to people’s social trust, regardless of their nativity status. In addition, social expenditure has a significant effect on decreasing the frequency of informal social interactions on the three groups involved in the study.

The results also revealed that social expenditure simultaneously increases social trust and decreases frequency of socialization, which does not support the hypothesis that social capital stems from informal networks of social solidarity aimed to assist individuals in distress. In a future project we will explore how different welfare designs influence the multidimensionality of social capital fitting multi-level, multivariate models with Bayesian estimates. We will also be extending our framework to the United States, where we investigate the potential mechanisms linking different types of social benefits with social capital formation across immigrant and native groups. ■

—Rocio Calvo, Ph.D., is a social worker and a David E. Bell Postdoctoral Research Fellow at the Harvard Center for Population and Development Studies.
News Briefs:

Congratulations to Harvard University’s numerous doctoral programs that received exceptionally strong evaluations in the National Research Council’s long-awaited Assessment of Research Doctoral Programs, released in the Fall 2010. The quality of programs in over 200 doctoral granting universities in 62 fields of study were reviewed for the years 2006-2007. HCPDS Director Lisa Berkman was chair of the Department of Society, Human Development and Health (SHDH) at HSPH until 2008. That department, now chaired by colleague Ichiro Kawachi, received high rankings in all the measures.

Congratulations to Babatunde Osotimehim, Ph.D., who was appointed as the new executive director of the United Nations Population Fund (UNFPA) on November 19, 2010. Osotimehim is a former visiting fellow at the Harvard Center for Population and Development Studies. A native of Nigeria, Osotimehim has had a distinguished career as a leader and researcher in the areas of reproductive health and HIV, and most recently served as project head of the World Bank’s HIV/AIDS prevention project.

Welcome to new HCPDS faculty member, Patrick Vavken, M.D. M.Sc., who is an instructor in orthopedics at Harvard Medical School. Dr. Vavken has a research background in regenerative medicine and translational research, as well as in epidemiology. His current research focuses on determinants of health care outcomes and the burden of musculoskeletal disease. An Austrian by birth, Dr. Vavken studied medicine at the Medical University of Vienna, where he also trained in orthopedic surgery. He earned a master’s in epidemiology from the London School of Hygiene and Tropical Medicine before moving to Harvard Medical School, where he currently works at Children’s Hospital Boston.

Expanding the Global Network continued from page 1

Africa, the meeting reflected that INDEPTH is “a vibrant and long-standing organization” while also providing opportunities for networking and participation in workshops focused on population studies.

“In my own work, I’ve been in touch frequently with INDEPTH and I know many people through INDEPTH,” says Bärnighausen, noting that there is an opportunity for the organization to serve as facilitator of the vast collection of data at individual sites. “INDEPTH has a huge potential to fill that role, to make data available in a shared fashion with quality control and meta-databases where data can be pooled... and that is a role that they play and can play to a larger extent in the future.”

For Finlay, whose work explores the economic consequences of demographic change as well as change in reproductive health, the annual meeting also allowed her to conduct interviews for an ongoing project (along with Berkman) to see whether changes in reproductive health laws in Ghana had altered fertility rates.

“INDEPTH has these fantastic sites with small groups of people, so what I’m interested in doing is looking at interventions, randomized control trials, and policy,” says Finlay, “and how does policy affect people in groups. We can really see what happens to people after exposure to national policy, and women, for example, who have better access throughout their lives to reproductive health services, may have a better life.”

With her doctorate in economics, Finlay says she is also interested in social outcomes and labor market outcomes, and has been using the demographic and health surveys of INDEPTH that cover “cohorts of people.”

“The beauty of INDEPTH data is we can track the same people across time and see what their outcomes are,” says Finlay. “Some go back to the 1970s, so now we can see what the affect was 40 years later, and we can see intergenerational affects as well.”

Strength in Numbers

Among its greatest strengths as an organization, Finlay cites INDEPTH’s “level of health-related data” as well as the strong relationships with the people on-site, many of whom are nationals.

“Nothing replaces that knowledge of cultural backgrounds, nothing replaces talking to people on the ground at the time of interventions,” says Finlay. “It is quite a unique set of data … and we get to interact with the people who collect the data and have the ability to follow-up. That relationship is invaluable....”

For HCPDS Bell Fellow Analia Olgiati, whose work is primarily focused on the overlap of migration and health, the collaboration has allowed her to expand her research on HIV and migration to malaria and migration as well, based on existing INDEPTH data.

“The possibility to do comparative work has affected me the most,” says Olgiati. “There are two sides to INDEPTH’s work that are relevant to my research. On the one hand there is the work of the demographic sites and their huge collection of data, which I will have access to, and then there are the SAGE (WHO Study on Global Aging and Adult Health) surveys that we are using on eight particular sites. I would have never thought of some of the things I’m considering now.”

Olgiati also sees great strength and capacity building with the workshops that the Pop Center will continue to hold for INDEPTH’s researchers, which offer a neutral setting “to share knowledge and ideas.”

“There is a realization that increasingly it will be important to pool resources and data to answer scientific questions that cannot be meaningfully investigated in one site alone,” says Bärnighausen. “A lot can be gained from cross-site comparison and by putting data and minds together.”
### Upcoming Spring 2011 Seminar

**POP CENTER SEMINARS**

Pop Center, 9 Bow Street, Cambridge, 4:30 – 6:00 PM

These Monday sessions are open to everyone: faculty, research scientists, postdoctoral fellows, and students. Advance readings are available at our website www.hsph.harvard.edu/cpds.

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<td><strong>Epidemiologic Methods are Useless. They Can Only Give You Answers</strong></td>
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<td>Miguel Hernán, MD, MPH, ScM, DrPh, Associate Professor of Epidemiology, Department of Epidemiology, Harvard School of Public Health</td>
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<td>February 14</td>
<td><strong>FEATURED SEMINAR</strong></td>
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<td><strong>Preparing for the UN General Assembly Meeting in September, 2011:</strong></td>
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<td>What We Do and Don’t Know About Managing the Growing Chronic Disease Epidemic in Developing Countries</td>
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<td>Thomas Gaziano, MD, MSc, Assistant Professor in the Department of Health Policy and Management, Department of Health Policy and Management, Harvard School of Public Health; Associate Physician in Cardiovascular Medicine, Department of Cardiology, Brigham &amp; Women's Hospital</td>
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<td>February 28</td>
<td><strong>Migration and Human Development: Insights from a Child Centric Approach</strong></td>
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<td>Marta Tienda, PhD, Professor in Demographic Studies and Professor of Sociology and Public Affairs, Princeton University</td>
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<td>Rohini Pande, PhD, MSc, MA, Mohammed Kamal Professor of Public Policy, Harvard Kennedy School of Government</td>
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<td>March 28</td>
<td><strong>The Comparative Sociology of Health Inequalities</strong></td>
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<td>Jason Beckfield, PhD, MA, Assistant Professor of Sociology, Department of Sociology, Harvard University</td>
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<td>April 4</td>
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<td>Barry Bloom, PhD, Harvard University Distinguished Service Professor and Professor of Public Health, Harvard School of Public Health</td>
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<td>April 11</td>
<td><strong>Windows of Opportunity? U.S. Childhood Nutritional Interventions, Cognition and Attainment</strong></td>
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<td>Margot Jackson, PhD, Assistant Professor of Sociology, Department of Sociology, Brown University</td>
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<td>April 18</td>
<td><strong>Exploring the Concept of Allostatic Load In the Context of a Biopsychosocial Model of Health</strong></td>
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<td>Teresa Seeman, PhD, MS, Professor of Medicine and Epidemiology, UCLA Schools of Medicine and Public Health</td>
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<td>April 25</td>
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<td>David Williams, PhD, MDiv, MPH, MA, Professor of Public Health, Harvard School of Public Health; Professor of African and African American Studies and Affiliate of the Sociology Department, Harvard University</td>
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<td>May 2</td>
<td><strong>Early Retirement and Health in Europe: Health as a Cause and as an Outcome of Early Retirement</strong></td>
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<td>Axel Boersch-Supan, PhD, Professor of Macroeconomics and Public Policy, University of Mannheim, Germany</td>
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<td>Alberto Palloni, PhD, Professor, Department of Sociology, University of Wisconsin, Madison</td>
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### ROBERT WOOD JOHNSON FOUNDATION HEALTH AND SOCIETY SCHOLARS SEMINARS

Harvard School of Public Health, Kresge Building, Room 708, 4:00 – 6:00 PM

These Thursday sessions are open to faculty, research scientists, and postdoctoral fellows. Advance readings are available at our website www.hsph.harvard.edu/cpds.

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| January 27 | **The FDA and ABCs: Unintended Consequences of Antidepressant Warnings on Human Capital**  
Ellen Meara, PhD, Associate Professor, Dartmouth Institute for Health Policy and Clinical Practice, Dartmouth College |
| February 10| **The Prevention Paradox Revisited: Is There a Place for Harm Reduction in Tobacco Control?**  
Michael Siegel, MD, MPH, Professor of Community Health Sciences, Boston University |
| February 24| **Healthcare Reform and the Translation of Research into Policy**                              
Amitabh Chandra, PhD, Professor of Public Policy, Harvard Kennedy School of Government |
| March 10   | **Poverty Policy, Health and Well-Being**                                                
Kathleen Ziol-Guest, PhD, MPA, Postdoctoral Associate, Cornell University, Department of Policy Analysis and Management, and Research Fellow, Statistics Norway |
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| May 12     | **Title Forthcoming**                                                                     |

**FEATURED SEMINAR**

On February 14, 2011, the Pop Center presents “*Preparing for the UN General Assembly Meeting in September, 2011: What We Do and Don’t Know About Managing the Growing Chronic Disease Epidemic in Developing Countries,*” by Thomas A. Gaziano, M.D., M.Sc., Assistant Professor of Medicine, Harvard Medical School, Division of Cardiovascular Medicine, Brigham and Women’s Hospital.

Almost 60 percent (35 million) of annual deaths are caused by chronic diseases such as heart disease, stroke, and related conditions—as many deaths as caused by all infectious diseases, combined. More than half of these deaths occur in people younger than 70, and 80 percent occur in middle-to-low income countries. Yet, the funding levels for the prevention and treatment of chronic diseases have not kept pace with those for infectious diseases. Additionally, the Millennium Development Goals (MDGs) established in 2000 call for the global improvement of human health to be achieved by 2015. Chronic disease and its impact are not addressed in the MDGs, despite the emerging epidemic that has been identified. In September 2011, the UN General Assembly will convene a special meeting to address this omission.

Please join us on February 14 as Dr. Gaziano talks about the evidence justifying the elevation of chronic disease as a priority area in the global health arena, as well as the global efforts underway to use this meeting to ameliorate this burden.
Epidemiology is often referred to as the science of public health. Unlike other major sciences, however, its theoretical foundations are rarely articulated. While the idea of epidemiologic theory may seem dry and arcane, it is, at its core, about explaining the people’s health. It covers life and death; biology and society; and ecology and the economy. It is also about how myriad aspects of people’s lives—work, dignity, desire, love, play, conflict, discrimination, and injustice—become literally incorporated into our bodies and manifest in our health status, both individually and collectively. And it is about essential knowledge critical for improving the people’s health and minimizing inequitable burdens of disease, disability, and death.

Nancy Krieger, Ph.D, professor of Society, Human Development, and Health at the Harvard School of Public Health and a HCPDS faculty member, traces the history and contours of epidemiologic theory from ancient societies on through the development of—and debates within—contemporary epidemiology worldwide in her new book, *Epidemiology and the People’s Health: Theory and Context*. Outlining an eco-social theory of disease distribution that situates population health and epidemiologic theory in societal and ecologic context, this book offers a more holistic view of how we embody the human experience.