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Increasing gender and ethnic representativeness of health research

I have had the opportunity to work with a variety of studies that strive to be more inclusive in participant recruitment in order to expand the generalizability of health research. Several of the studies have purposefully recruited men and women as well as people from a variety of racial and ethnic backgrounds: the Coronary Artery Risk Development in Young Adults Study (CARDIA), a longitudinal epidemiologic study of the development of heart disease; the Ethnicity, Needs, and Decision of Women Study (ENDOW), a multi-site study documenting the cultural factors associated with health decision-making among women; the Study of Family Health, interviewing parent-teen dyads regarding transition to adulthood with specific recruitment of Hispanic and ethnically Chinese families; and the Stroke Prevention/Intervention Research Program in Health Disparities at UCLA.

Lewis CE, Jacobs DR Jr, **McCreath H**, Kiefe CI, Schreiner PJ, Smith DE, Williams OD. Weight gain continues in the 1990s: 10-year trends in weight and overweight from the CARDIA study. American Journal of Epidemiology. 2000 Jun 15;151(12):1172-81.

Cherrington A, Lewis CE, **McCreath HE**, Herman CJ, Richter DL, Byrd T; ENDOW Study. Association of complementary and alternative medicine use, demographic factors, and perimenopausal symptoms in a multiethnic sample of women: the ENDOW study. Family and Community Health. 2003 Jan-Mar;26(1):74-83.

Community-based collection of biomarkers

Building on my formal training and my work experience in large-study coordination and administration, I have participated with multiple projects to develop, document, and validate protocols for rigorous collection of biomarkers in the community. Portable protocols are critical to studies in which participants may have difficulty traveling to a central location (e.g., frail older adults, members of under-served or rural communities). Two initiatives have focused on such work: the USC/UCLA Center on Biodemography and Population Health and the NIH Toolbox. In addition to validation of protocols against gold-standard, clinical protocols, I have participated in the development of written protocols, video and pictorial training materials, and quality assurance procedures. These efforts promote inclusion of high-quality biomarker data across multiple studies, enhancing generalizability and cross-study comparisons.

Reuben DB, Magasi S, **McCreath HE**, Bohannon RW, Wang YC, Bubela DJ, Rymer WZ, Beaumont J, Rine RM, Lai JS, Gerson RC. Motor assessment using the NIH Toolbox. Neurology. 2013, Mar 12:80(11 Suppl 3):S65-75. PMID: PMC3662336

Crimmins E, Kim JK, **McCreath H**, Faulk J, Weir D, Seeman TS. Validation of blood-based assays using dried blood spots for use in large population studies. Biodemography and Social Biology. 2014, 60(1): 38-48. PMID: PMC4117354

Improving detection of early pressure ulcer damage

Traditional methods of detecting pressure ulcers rely heavily on visual assessments of color changes of skin. However, such methods are ineffective for those with darkly pigmented skin, as color changes are difficult to see. As a result, those with darkly pigmented skin may not receive timely preventive measures, placing these patients at increased risk for poor outcomes. Dr. Barbara Bates-Jensen and I have conducted work with nursing home residents, spinal cord

injured veterans, and critical care patients to evaluate and establish the feasibility of subepidermal moisture as an alternative indicator of early pressure damage. We recently concluded a study of over 400 nursing home residents (with 60% of the sample non-white) in which ethnic disparities in skin damage were largely explained by skin color.

McCreath HE, Bates-Jensen BM, Nakagami G, Patlan A, Booth H, Connolly D, Truong C, Woldai A. Use of Munsell color charts to measure skin tone objectively in nursing home residents at risk for pressure ulcer development. Journal of Advanced Nursing. 2016, Sep;72(9):2077-85. PMID: PMC4958492

Bates-Jensen BM, Patlan A. Subepidermal moisture detection of pressure induced tissue damage on the trunk: The pressure ulcer detection study outcomes. Wound Repair and Regeneration. 2017, May;25(3):502-511. doi: 10.1111/wrr.12548. Epub 2017 May 31. PMID: PMC5568916

Bates-Jensen BM, **McCreath HE**, Nakagami G, Patlan A. Subepidermal moisture detection of heel pressure injury: The pressure ulcer detection study outcomes. International Wound Journal. 2017 Dec 17. doi: 10.1111/iwj.12869. [Epub ahead of print] PMID: 29250926

Bates-Jensen BM, Anber K, Chen MM, Collins S, Esparza AN, Gieschen K, Haglund E, Lim JY, Lin C, Taw EJ, Rodriguez S, Truong M, Tubillo P, Xiao A, **McCreath HE**. Natural History of Pressure Injury Among Ethnically/Racially Diverse Nursing Home Residents: The Pressure Ulcer Detection Study. Journal of Gerontological Nursing. 2021 Mar 1;47(3):37-46. doi: 10.3928/00989134-20210210-03. PMID: 33626163

If you want to see more, the link below will take you to Dr. McCreath's complete list of list of published work.

<https://www.ncbi.nlm.nih.gov/sites/myncbi/1FAXCeSkH-WQB/bibliography/43695932/public/>