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## DISPARITIES IN ARKANSAS MANDATED IMMUNIZATION COVERAGE AMONG NATURAL HOME AND FOSTER-CARE ADOLESCENTS

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Anecdotal evidence indicated vaccine coverage disparities among foster-care (FCA) and natural-home adolescents (NHA). Arkansas laws require 5 vaccines for school entry (FVSE) to prevent 9 common childhood diseases. The study problem was that Pulaski County, Arkansas adolescent birth cohort (PCABC) immunization rates were low compared to U.S. adolescents for these FVSE. This study examined the extent to which (1) PCABC immunization rates were significantly different from those estimated for U.S. adolescents in 2006–2008, (2) NHA and FCA immunization rates were different in 2003–2008; (3) Sociodemographic variables mediate associations between home of residence (HOR), NHA or FCA, and up to date (UTD) status for FVSE; and (4) Vaccination game theory (VGT) estimated deaths differ between individual-equilibrium and group-optimum behaviors. The methodologies applied were direct standardization,  $\chi^2$ , multiple logistic regressions, and VGT to analyze PCABC retrospective secondary data from the Arkansas immunization registry. The results revealed that U.S. adjusted UTD coverage rates for Hepatitis B, measles, mumps, rubella and varicella were greater than those for PCABC. Race-adjusted FCA immunization rates were 120% higher than for NHA. Race mediated the association between HOR and UTD FVSE status, and African Americans had 80% greater odds of being UTD with FVSE compared to Caucasians. Group-optimum behavior was associated with fewer estimated deaths than individual equilibrium; thus, it is protective against disease outbreaks. Positive social change may occur among the PCABC when healthcare providers include these results in communications with parents at FCA and NHA community health clinics. Parental vaccine acceptance for their children may increase vaccinations and improve PCABC health and wellness.

### Biography

Ngundue's doctoral dissertation focus is immunization; "Disparities in Arkansas Mandated Immunization Coverage among Natural Home and Foster-Care Adolescents". He is passionate about increasing immunization coverage in Arkansas. He served as Chair of the Health Disparities section, Arkansas Public Health Association. He is a Public Health Preparedness Planner responsible for pandemic influenza, population health, and community resilience since 2012 at Arkansas Department of Health. He enjoys discussing his work and collaborating with communities to ensure their safety. His Ph.D. is in Public Health with concentrations in Community Health, Promotion, and Education from Walden University, Master's degree in Health Services Administration, University of Arkansas Little Rock, Bachelor degree in Nuclear Medicine Technology, University of Arkansas for Medical Sciences, Little Rock, and Bachelor degree in Biology with Chemistry minor, University of Arkansas Little Rock, AR. His volunteer community services include Kiwanis International, Toastmasters International, Evaluator, Community Programs, Global Health, and Community projects.

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