

**The Relationships between Migration Status and Cardiovascular Disease
Risk Factors in China**

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Cardiovascular diseases, including ischemic heart disease and stroke, are the leading causes of mortality, morbidity, and disability in the world. In the past several decades, economic reform, rapid growth, and relaxed legal restrictions on internal migration in China have led large numbers of people to leave villages and move into cities in search of work. Compared to both urban and rural nonmigrants, these rural-to-urban migrants have heightened stress due to the rigors of life as migrants, relatively low socioeconomic status, decreased social support, and limited access to health care, all of which may increase their risk of developing cardiovascular diseases. However, no studies to date have examined migrant-nonmigrant differentials in cardiovascular disease risk factors in China, due to lack of data, access limitations on extant data, and due also to the sensitive nature of the topic to the Chinese government.

This paper will use data from a just completed national probability sample survey of 3,000 respondents in China, with oversampling for migrants, to study the relationship between migration status and the risk factors for cardiovascular disease. The Chinese Migration and Health Survey, organized by the authors, is designed to study the

determinants, dynamics, and consequences of internal migration in China. The survey obtained detailed histories of migration, demographic, and psychosocial characteristics; measured anthropometric and biometric parameters; and collected dried blood spot (DBS) specimens for more direct assessment of health status. We will use multiple regression analyses to compare migration categories (e.g. rural-to-urban migrants, urban nonmigrants, and rural nonmigrants) with respect to the distributions of important risk factors for cardiovascular diseases, including smoking, physical activity, systolic and diastolic blood pressure, body mass index, waist-to-hip ratio, and glycosylated hemoglobin level (a marker of glucose metabolism clinically used to monitor patients with diabetes), controlling for the usual covariates, such as age and sex. We will further explore how these relationships are influenced by life stress, socioeconomic status, social support, and access to health care, by including measures of these domains in the regression models.

The funding for DBS-based bioassays is currently pending. Once the funds become available, we intend to measure C-reactive protein (a marker of inflammation and progression of atherosclerosis), and total and high-density lipoprotein (HDL) cholesterol on the stored frozen DBS specimens. We will then use the same analytic approach to examine the relationship between migration status and these DBS-based biomarkers.

This paper will be the first to integrate psychosocial and biological information in the exploration of the potential differentials of cardiovascular risk factors across migrant and nonmigrant populations in China. The findings may provide significant contribution to our understanding of the effect of migration on the risk of cardiovascular diseases.