

Factors That Increase Women's Risk of HIV Infection in Swaziland, Africa

BACKGROUND

HIV/AIDS is the leading cause of mortality and morbidity in Africa. With an estimated adult prevalence of 26.3 percent, The Kingdom of Swaziland is no exception—the small southern African nation is experiencing the world's most severe HIV/AIDS epidemic. HIV is especially burdensome for young and mature women if the infection and resultant disease manifests during their most economically productive years and/or during years of life when older and younger family members depend on them to provide family and maternal care. Further, interactions between HIV and other determinants of social, economic and biological health such as poverty, food security and nutritional status act interchangeably—resulting from and conditioning susceptibility to infection. Several exposures place women in situations of heightened risk to the virus in Swaziland. Understanding the prevalence and distribution of biological factors, women's behaviors, and socio-cultural conditions known to drive HIV infection is necessary to understand and interpret the potential impact of other important development indicators on the spread of HIV.

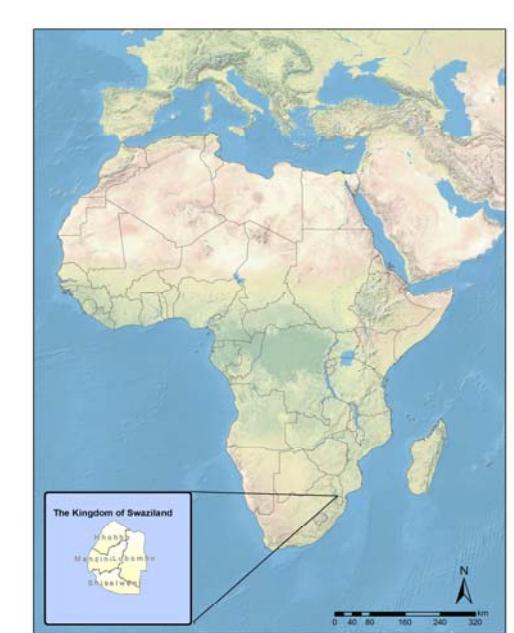


PROJECT GOALS

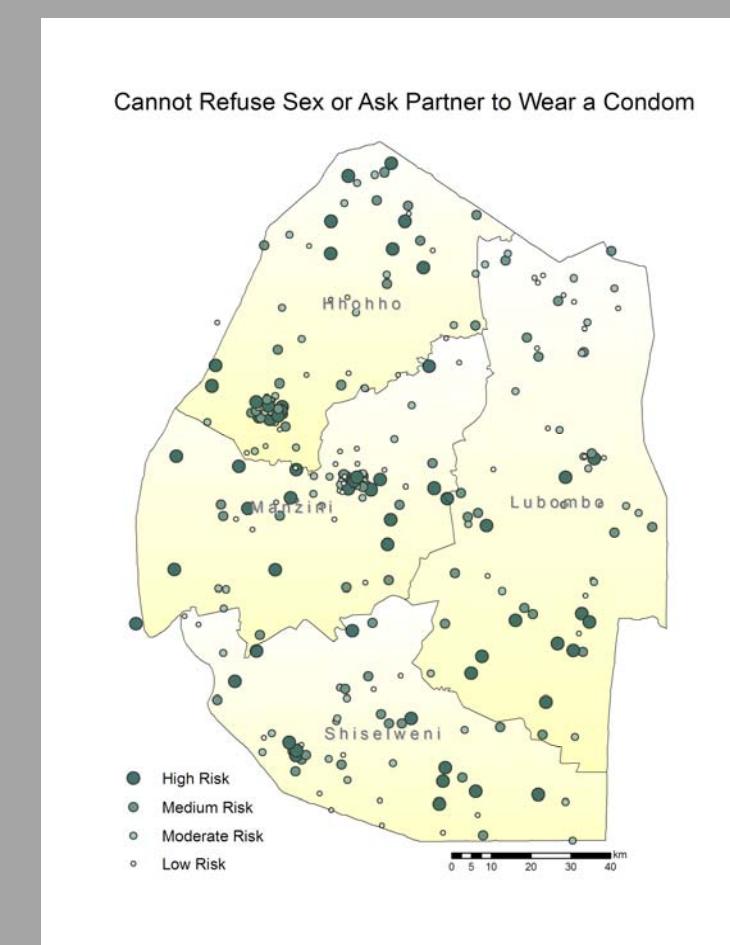
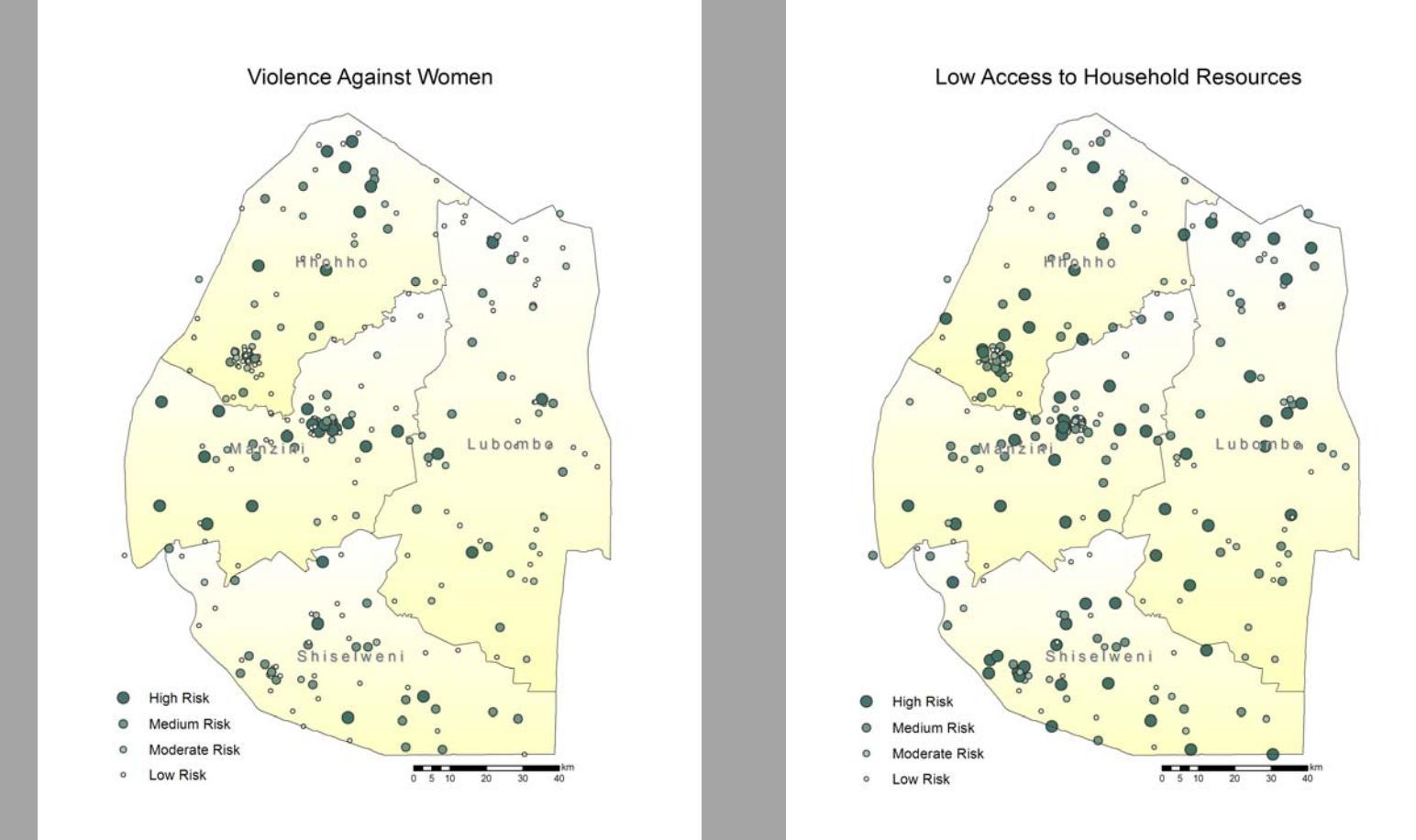
Factors that increase the risk of HIV infection among women are consistently identified in the literature. In particular, HIV infection in southern Africa is often associated with geographic and behavioral factors such as population density, individual and partner mobility and risky behavior. In addition, there is compelling evidence that women are more susceptible to HIV infection based on exclusive biological factors as well as underlying malnutrition. The goal of this project is to depict representative households that are at highest risk of HIV infection according to eleven indicators analyzed from the Swaziland DHS survey of married women age 15-49 years.

METHODS

Using 2006-7 Swaziland DHS data, eleven indicators associated with the risk of HIV infection were constructed. Women at risk were defined as married, age 15-49 years old. Indicator data was averaged by the number of women-at-risk respondents in each survey cluster. Then, mean data was classified into quartiles for each indicator and assigned one to four points according to increasing risk to HIV infection. Then, points were summed in order to create a cumulative Risk Score. Results are mapped to show risk scores per indicator and per district in Swaziland. In addition, the cumulative Risk Score is presented in relation to areas of low to high population density and livelihood zones.

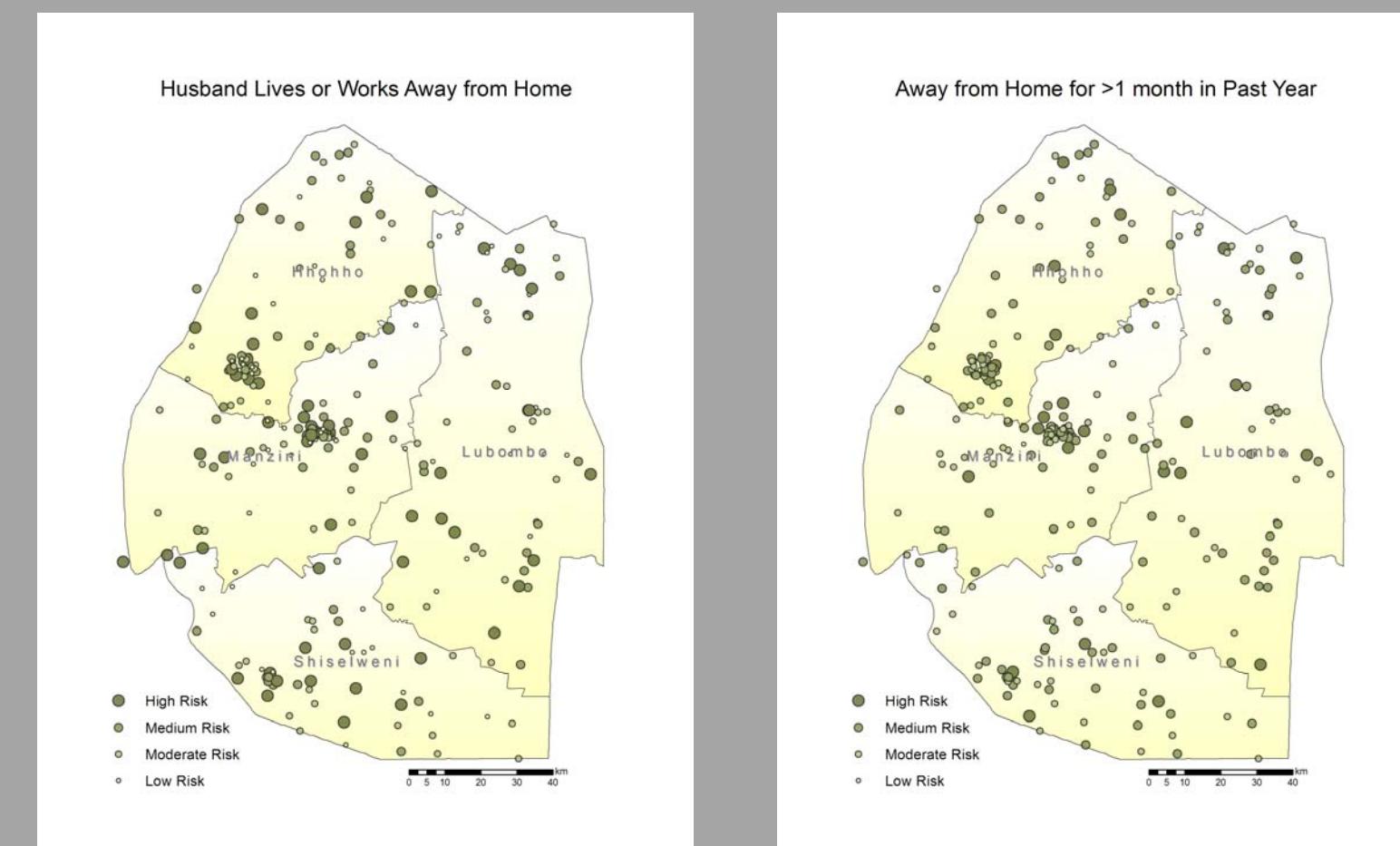


Gender Inequality

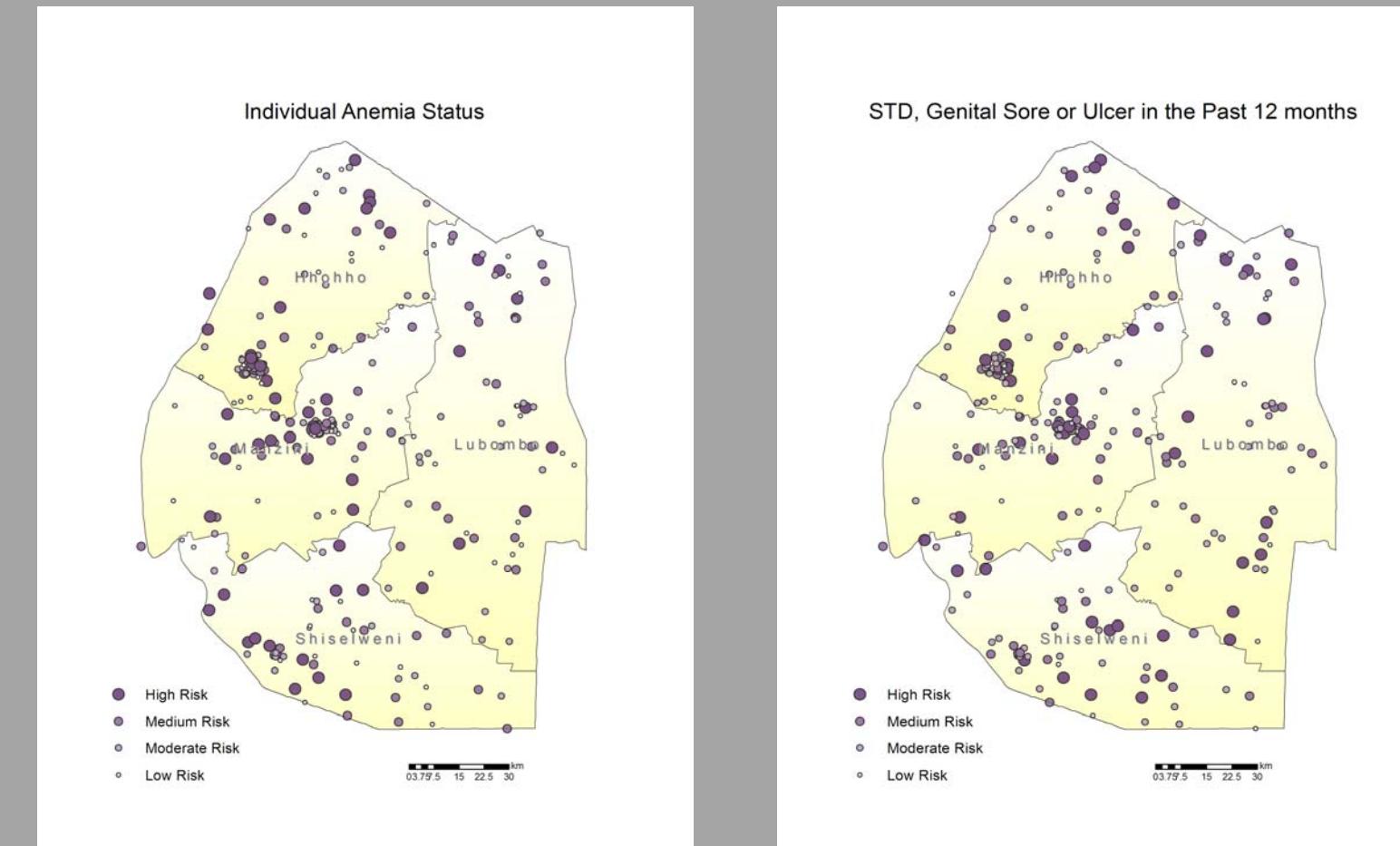


According to Gillespie and Kadiyala various factors precipitate susceptibility, or risk, to the HIV virus. The first component refers to the chance of being exposed to the virus—via the risk environment or personal adoption of risky behavior. The authors suggest that exposure is directly related to limited say over personal health decisions (often a direct result of gender inequality and powerlessness among women), infidelity of migrant sexual partners and limited practice of safe sex. Next, the risk of infection after exposure may be directly related to the pathogenesis of HIV in women versus men, as well as poor nutritional status which decreases immunity to infection.

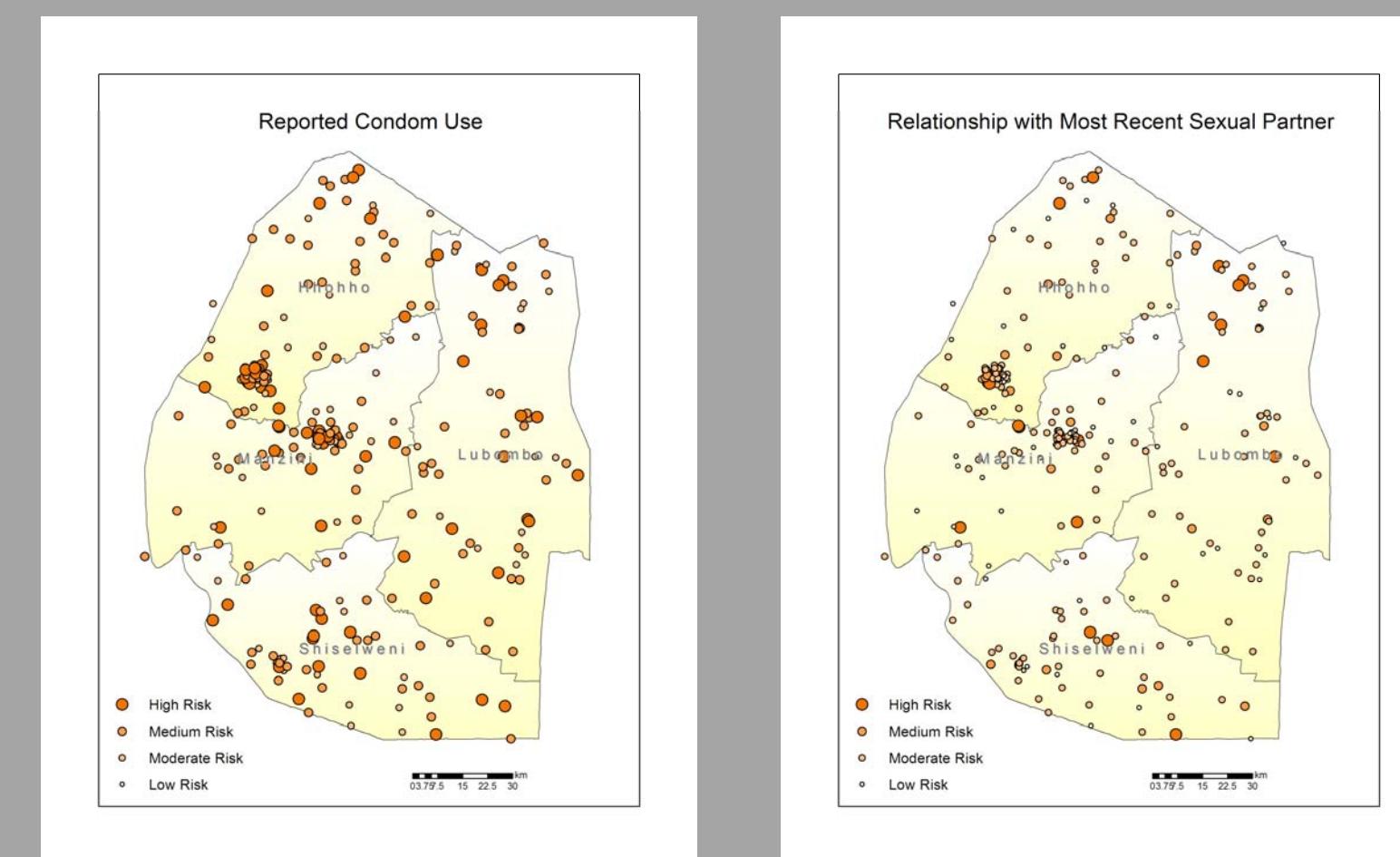
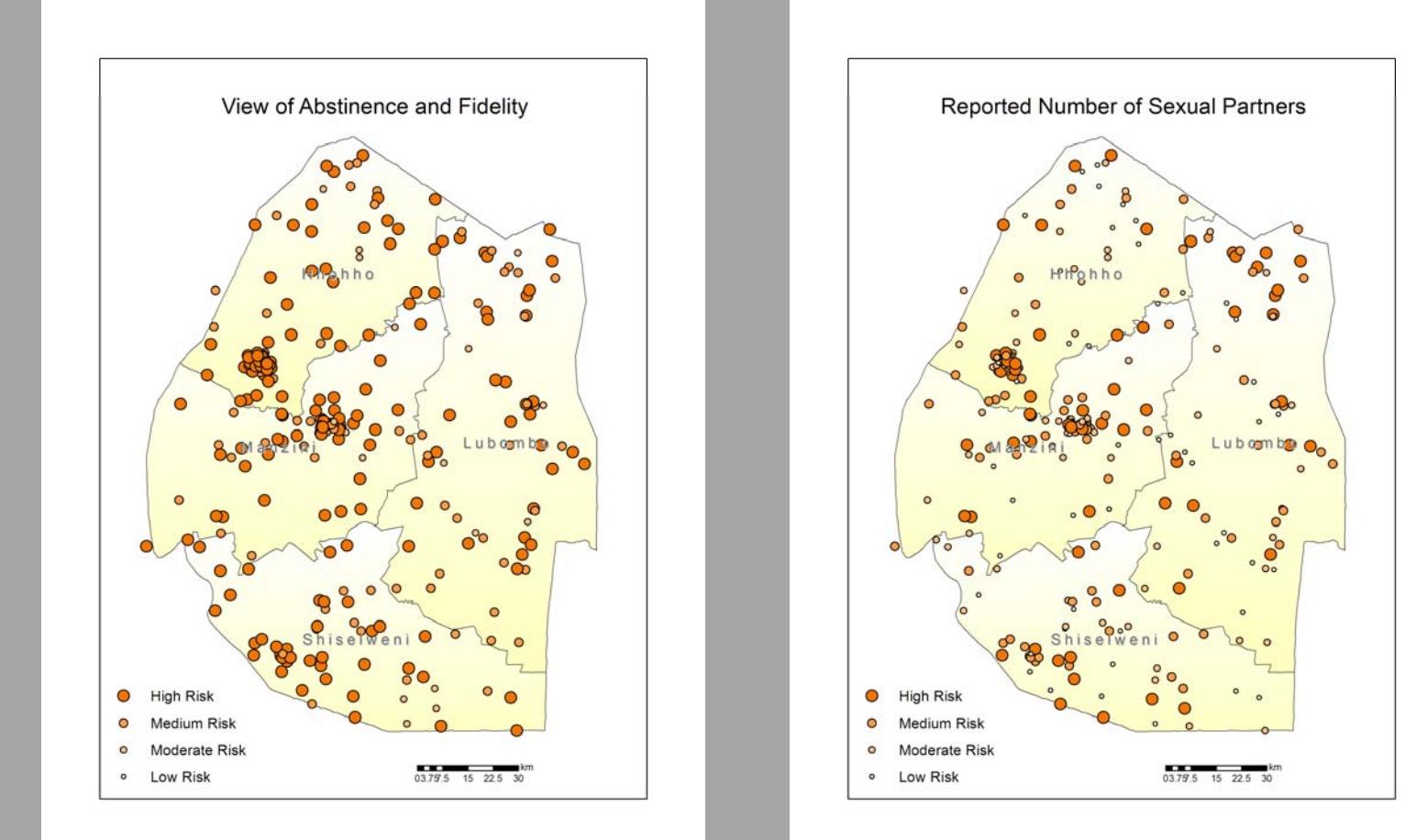
Mobility / Migration



Biological Factors



Risky Behavior



CONCLUSIONS AND LIMITATIONS

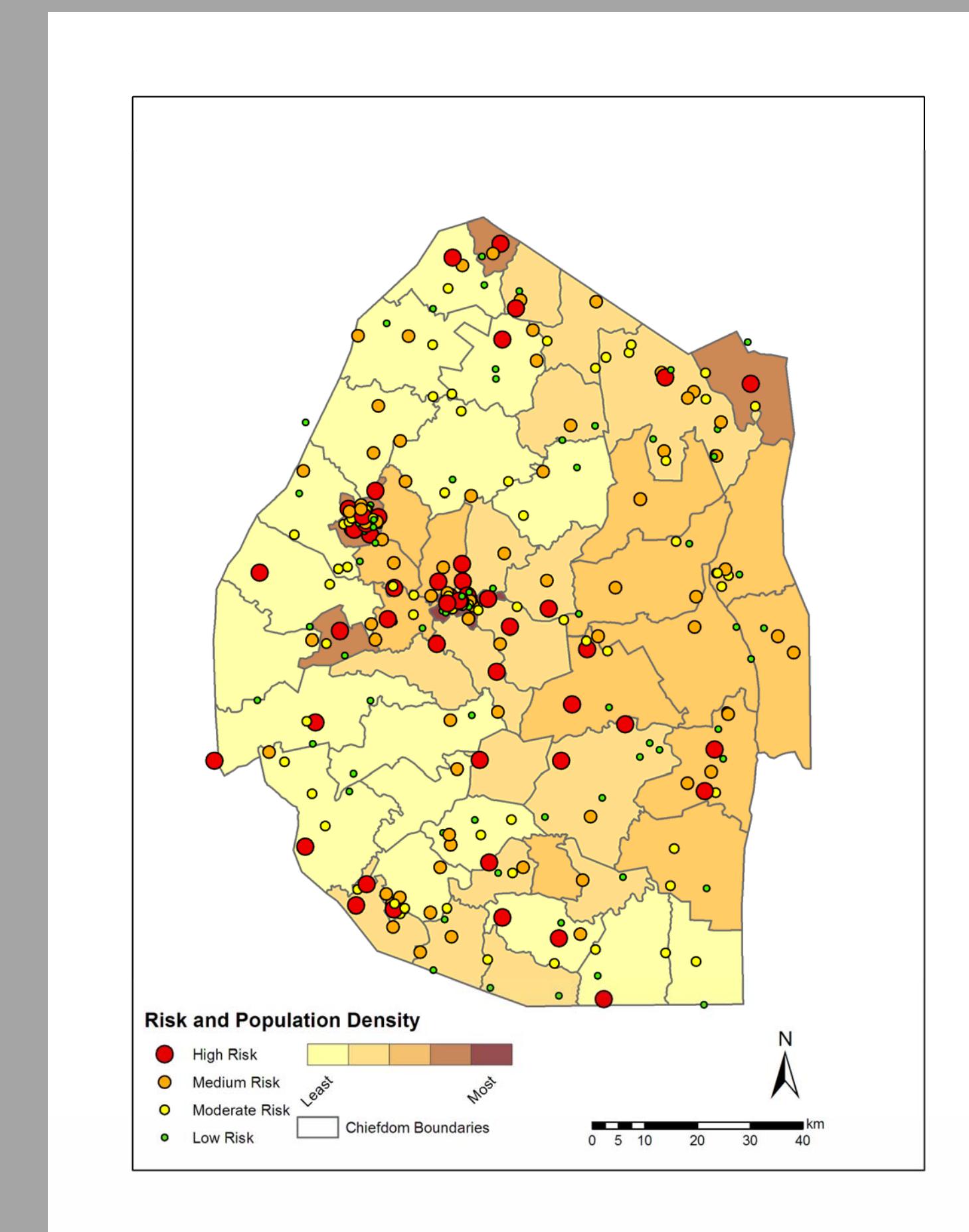
The maps presented are a useful snapshot of the prevalence of biological and socio-cultural characteristics that increase risk of HIV infection among married women 15-49 years old participating in the Swaziland DHS survey. Presentation of disaggregated indicators leading to a cumulative Risk Score is useful for recognizing patterns among women-at-risk. For example, districts with seemingly higher risk, such as Manzini and Hhohho can be visually identified as such. DHS sample design means that clusters are representative of the district in which the points are visible. Therefore, extreme results can be reasonably extrapolated to the district level. Ideally, indicators related to poverty, food security, and health status would be included in order to further investigate the risk environment and/or factors that accelerate HIV infection. Although the indicators constructed for this review are somewhat limited by proxy assumptions, their relevance aligns with the literature.

References:

- USAID, DHS Working Papers: Spatial Modeling of HIV Prevalence in Kenya. Paper No. 27. January, 2007.
- Gillespie, Stuart and Kadiyala, Suneetha. HIV/AIDS and Food and Nutrition Security: From Evidence to Action. IFPRI Food Policy Review 7. 2005
- Tanser, Frank C. and le Sueur, David. The Application of Geographical Information Systems to Important Public Health Problems in Africa. International Journal of Health Geographics. 2002
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CUMULATIVE RISK

by Population Density, Livelihood Zones



Given implications related to urban versus rural poverty, education and health access as it pertains to economic status, risky behavior and traditional versus non-traditional lifestyles, understanding population density and livelihood strategies in Swaziland provides an important lens with which to assess cumulative risk to HIV infection among married women 15-49 years old.

