

Urban Residence and Elevated Blood Pressure Among Migrant Women in South Africa : Extensions from Longitudinal Analyses

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Urban residence and elevated blood pressure among migrant women in South Africa

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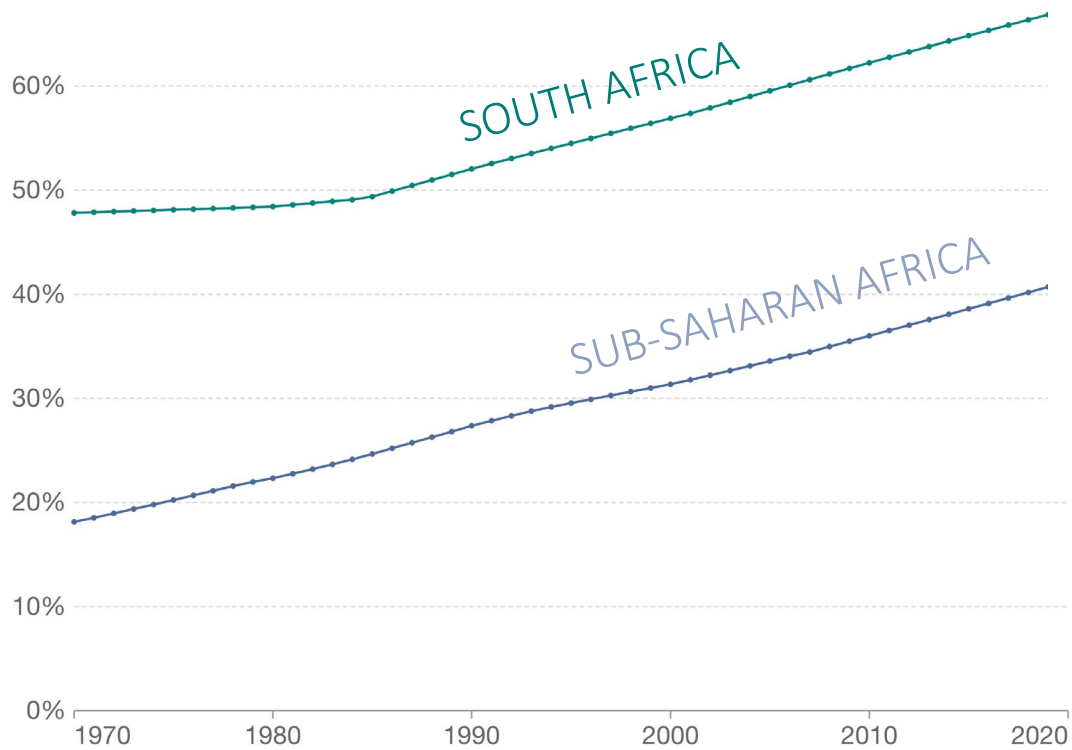
ABSTRACT

This paper demonstrates that internal migration may be contributing to rising non-communicable disease risk in low- and middle-income countries in gendered and geographically differentiated ways. With 2018 baseline data from the Migrant Health Follow-Up Study, we investigate the relationship between internal migration and elevated blood pressure (BP) among 2163 rural-origin men and women in South Africa, testing for sex differences. To examine the influence of place, we test whether the migration-BP relationship differs by migrants' destination locations, controlling for household composition, social support, prior migration, and housing quality. We find that migration is associated with elevated BP only among women, and that this association is greatest for migrants living in Tembisa township. Our research underscores that gender and migration are important social determinants of noncommunicable disease risk in low-resource, rapidly-urbanizing settings.

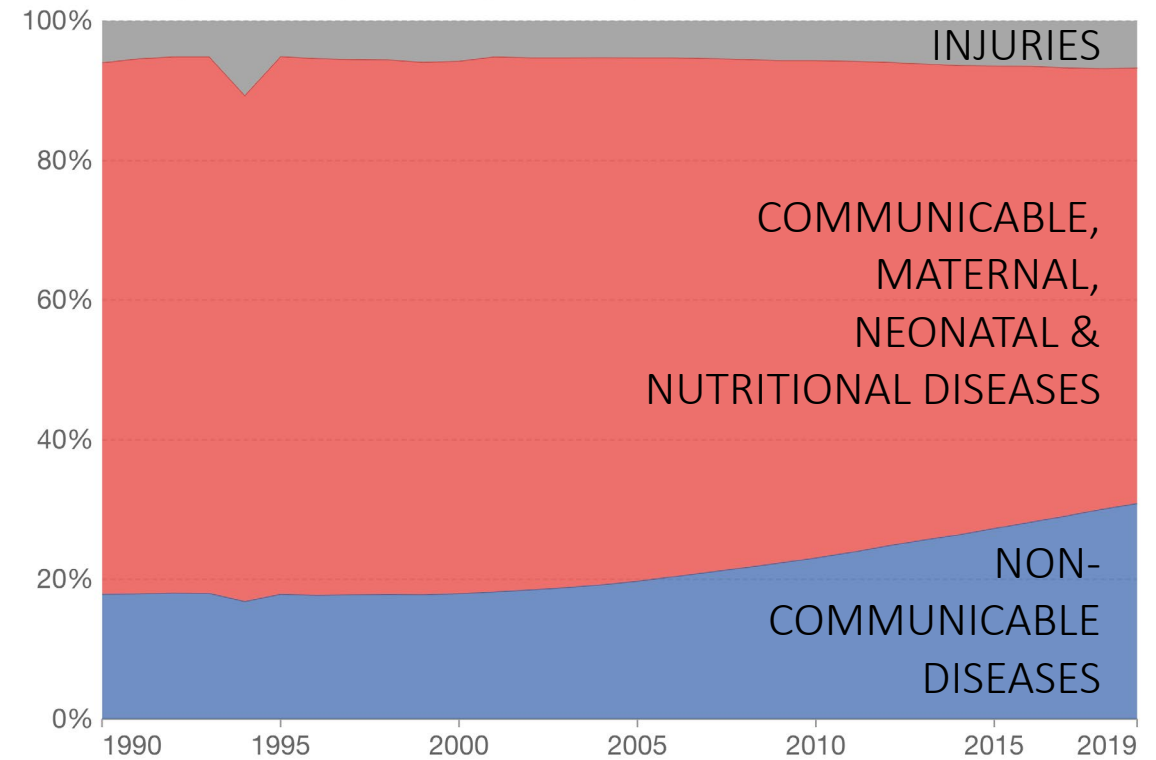
Introduction

Urbanization and the implications for NCDs in Sub-Saharan Africa

Share of Population Living in Urban Areas in Sub-Saharan Africa, 1970-2020

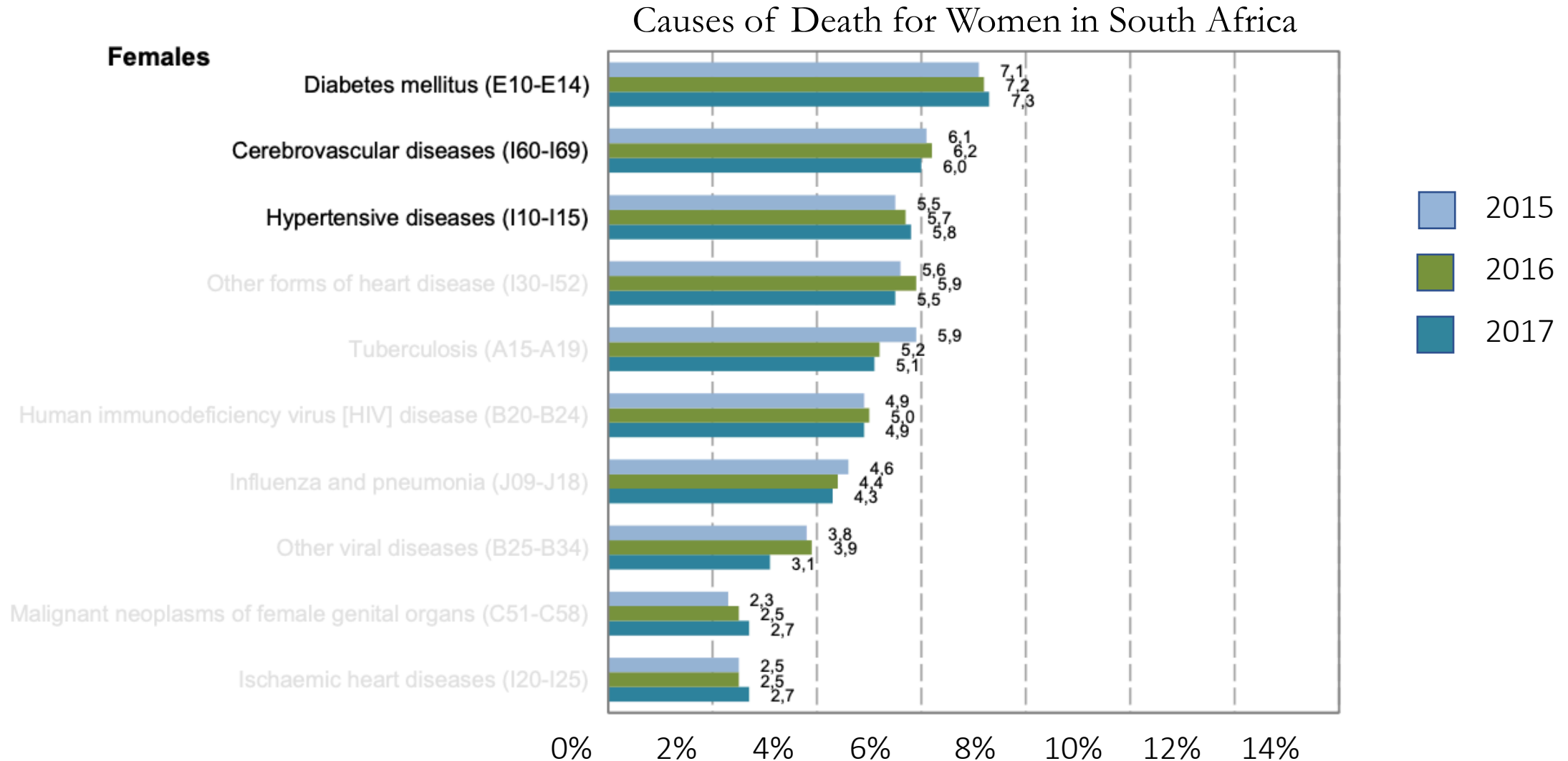


Total Disease Burden by Cause in Sub-Saharan Africa, 1990-2019



(Ritchie and Roser, 2018)

Women at risk of mortality from non-communicable disease



(StatsSA, 2020)

Literature

Urban Living & Health

- Poor dietary changes
(Popkin 1999; Battersby and Crush 2014)
- Increased smoking and alcohol consumption
(Volzke et al., 2006)
- Stressful living conditions
(Boardman 2004; Abbott, 2012)
- Lack of green and open space
(Verheij et al. 2008)
- Higher prevalence of crime
(Ross and Mirowsky 2001).
- Social cohesion and social networks limited
(Sampson et al., 1997; Kim et al., 2011)



Migration & Health

- Physical relocation
- Social dislocation
- Uncertainty
- Social expectations





Migration a Racialized Social Determinant of Health

Migration a Gendered Social Determinant of Health

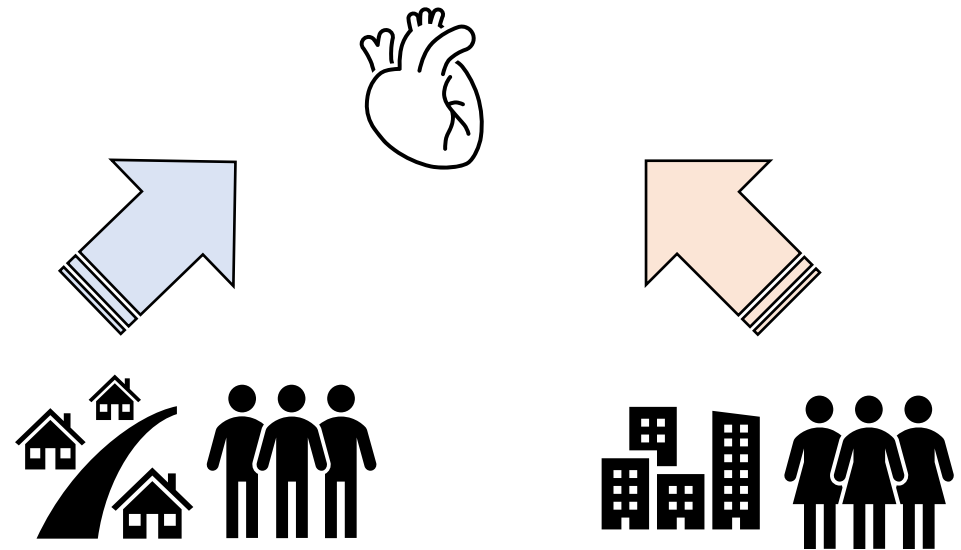
- Causes, patterns, and consequences of migration differ by gender (Curran and Rivero-Fuentes 2003; Kanaiaupuni 2000; Camlin et al. 2014; Camlin et al. 2019; Malmusi et al., 2010)
- Conceptions of health, illness and healthcare-seeking behavior are gendered (Green and Pope 1999; Koopmans and Lamers 2007, Courtenay 2000; Gough 2006)



The Project

Questions:

1. Does migration affect BP?
2. Does this relationship differ for men and women (in South Africa)?
3. What are the mechanisms that link migration and BP, and how are they gendered?





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Migrant Health Follow-Up Study

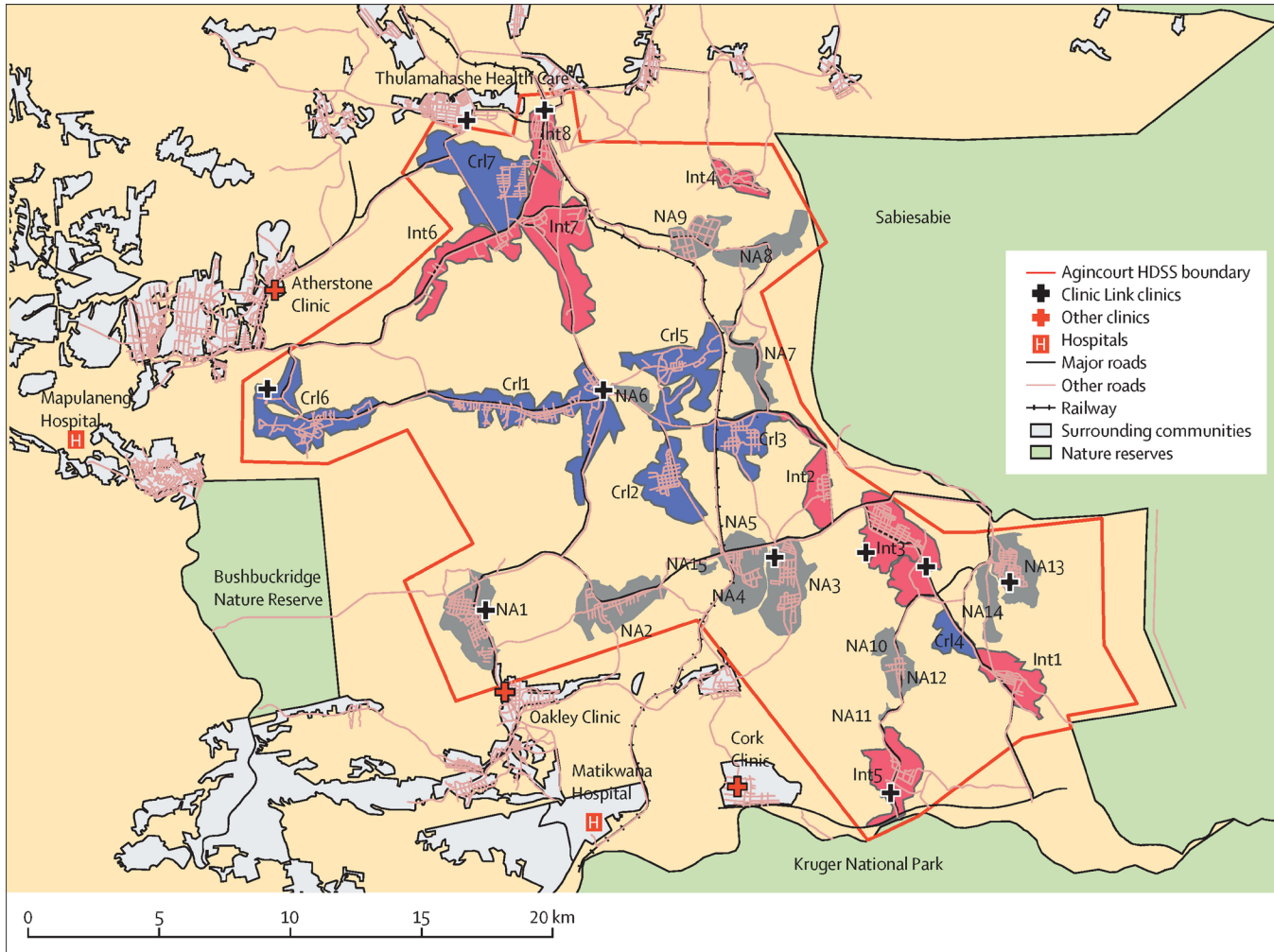
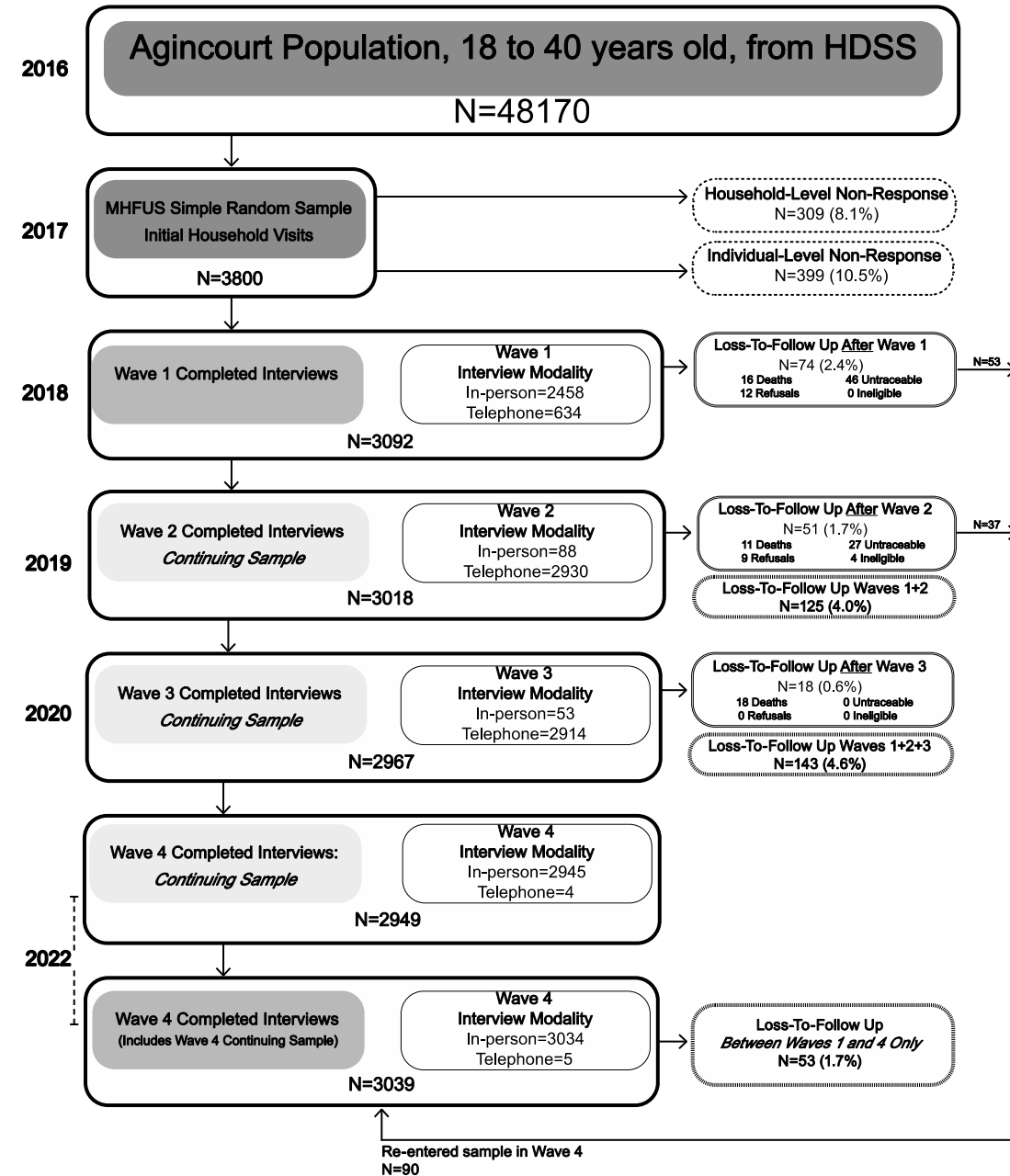


Figure 1. MHFUS Cohort by Wave, Interview Modality, and Loss-To-Follow-Up



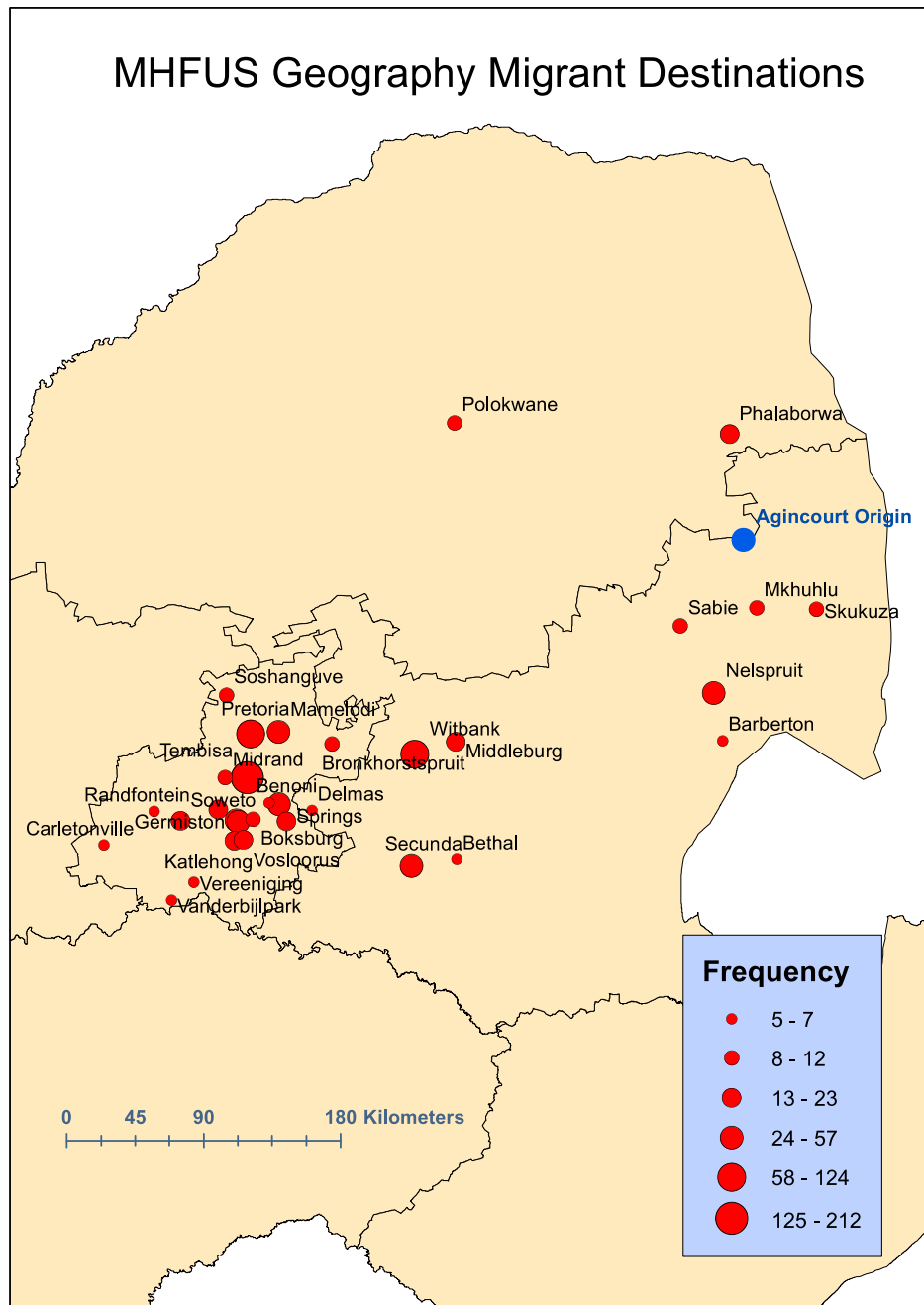


Photo Credit: Chantel Pheiffer, August 2019, Project Site Managers: Keith (Johannesburg) and Sadson (Agincourt)

Data & Methods

- 1128 women and 1034 men interviewed both at baseline (2018) and at follow-up (2022)
- OLS (baseline) & Fixed-effects (change in BP over time)
- Robustness checks

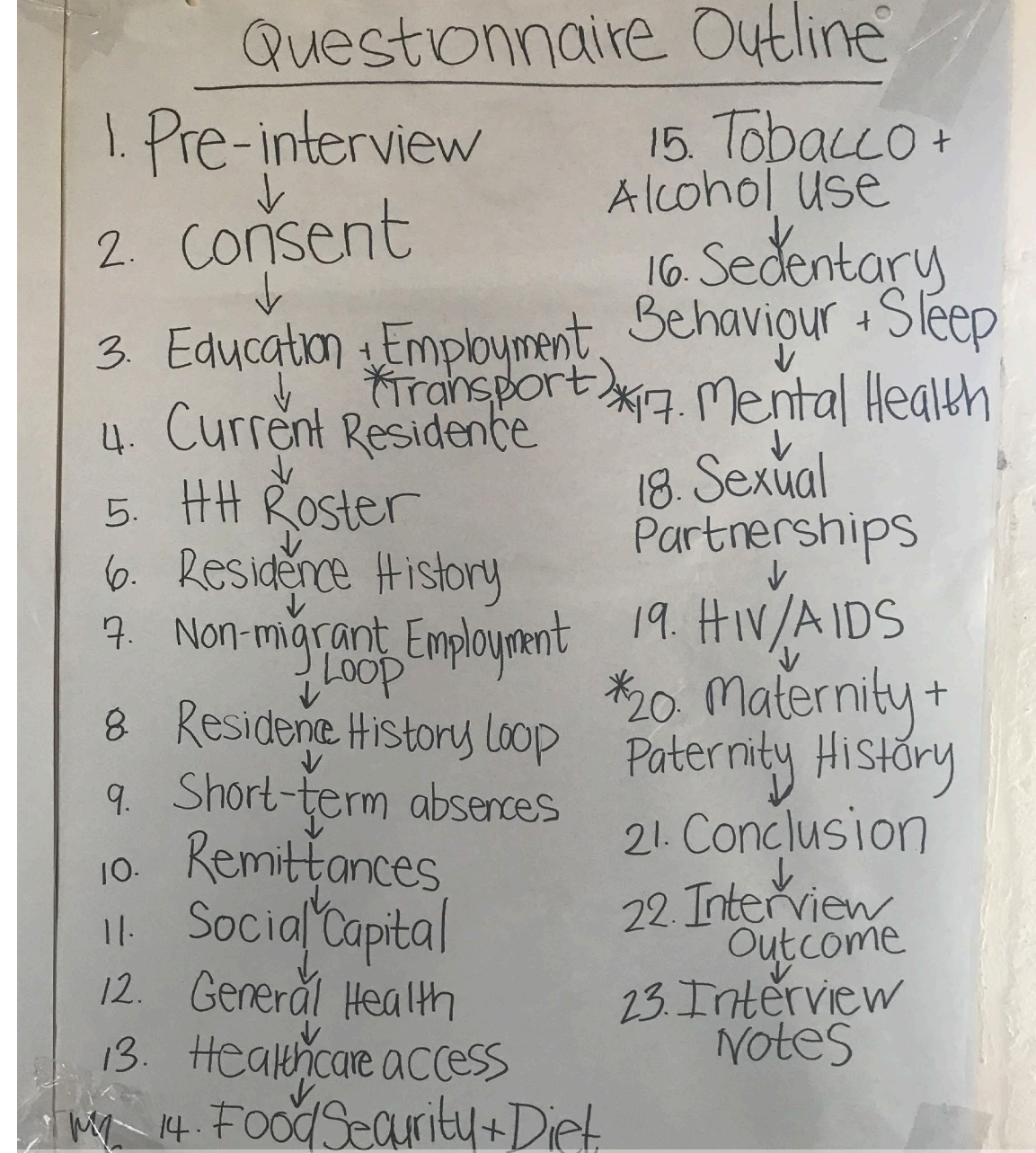


Photo Credit: Chantel Pheiffer, August 2019, Fieldworker Training, Agincourt HDSS, Mpumalanga, South Africa

Definitions

Migrant: Current usual residence outside of the AHDSS

Blood Pressure: average second two of three BP readings



Method: BP at Baseline

Model I: OLS

$$Y_i = \beta_0 + \beta_1 Z_i + \beta_2 X_{1i} + e_i$$

where

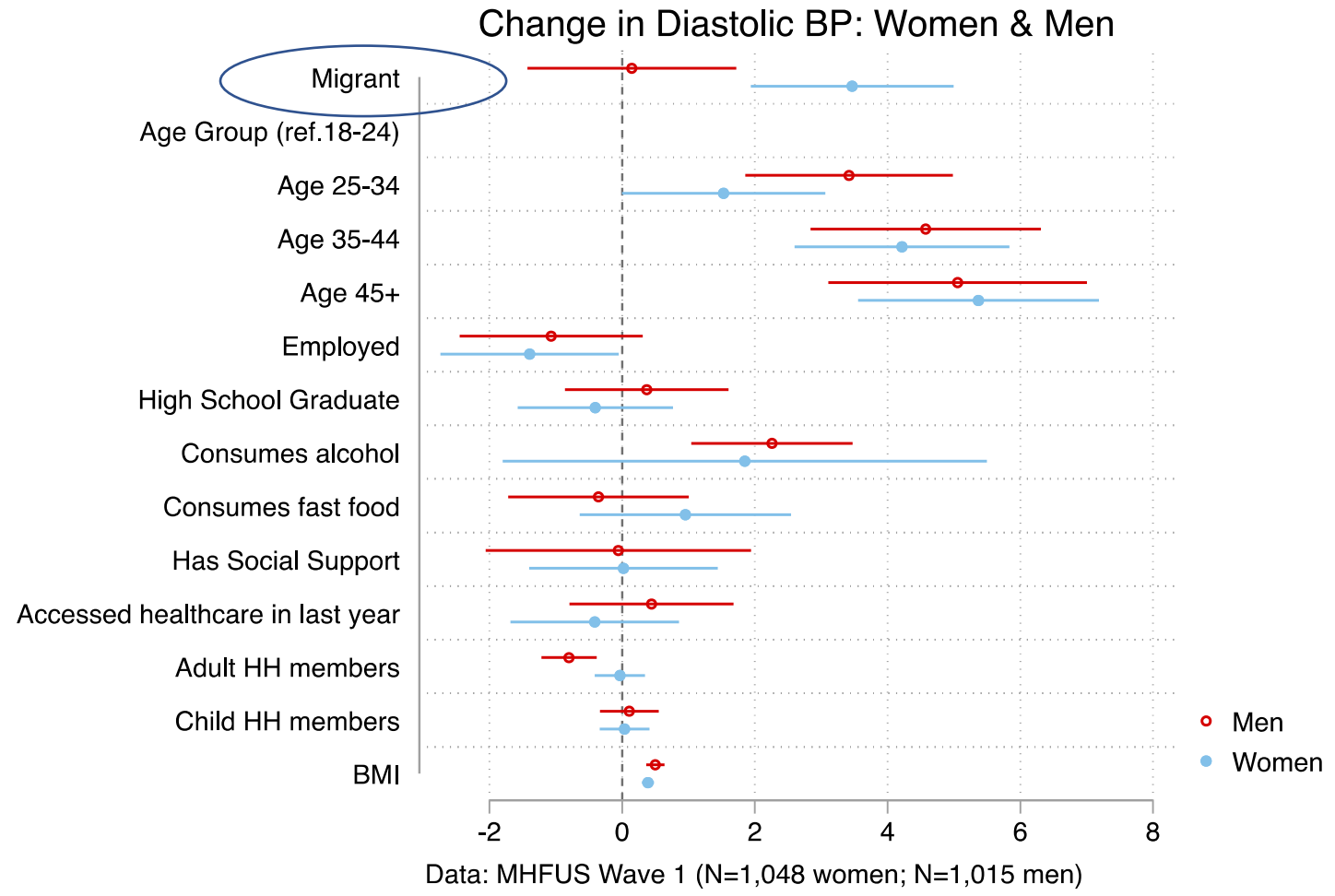
Y_i – BP for individual i

Z_i – Migration status for individual i

X_{1i} – Individual controls for individual i

Results from OLS Regressions:

Migration associated with elevated BP among women at baseline



Method: Changes in BP between Waves 1 and 4

Model II: Fixed Effects

$$Y_{ij} - \bar{Y}_i = (\beta_{0j} - \bar{\beta}_{0i}) + \beta_1(Z_{ij} - \bar{Z}_i) + \beta_2(X_{1ij} - \bar{X}_{1i}) + (\mu_{ij} - \bar{\mu}_i)$$

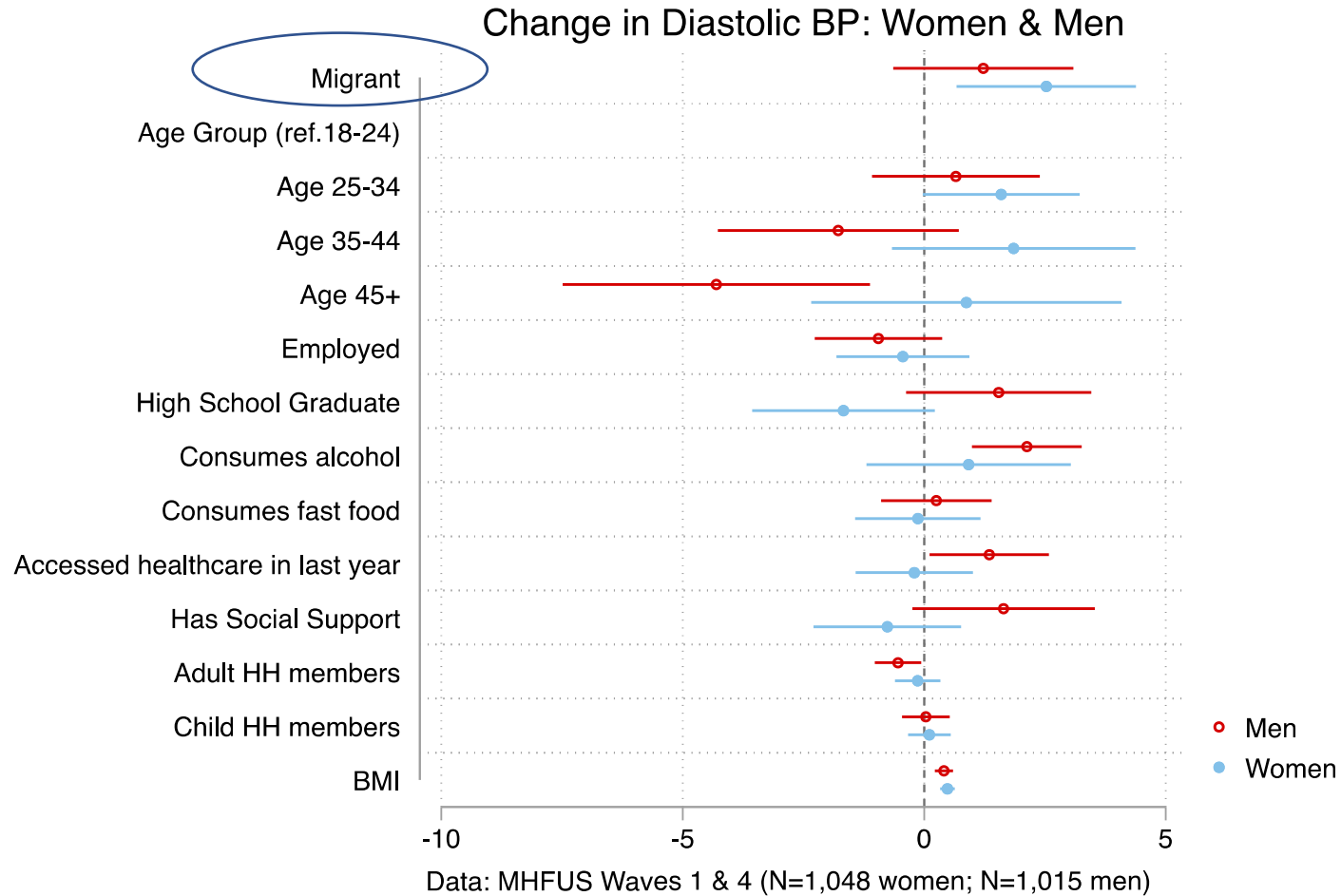
where

Y_{ij} – BP for individual i at time point j

Z_{ij} – place of residence for individual i at time point j

X_{1ij} – individual controls for individual i at time point j

Results from FE Regressions: Migration associated with elevated BP among women over time

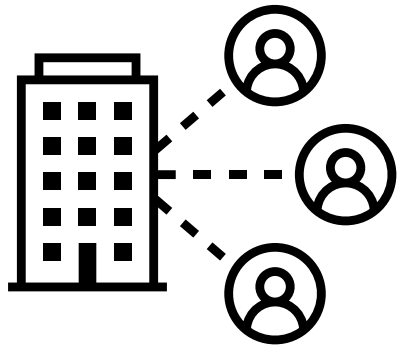


Implications & Next Steps

Migration a risk factor for hypertension among black women in low-resource settings

- 64 percent of female migrants in MHFUS are mothers
- Having children is not protective against migration

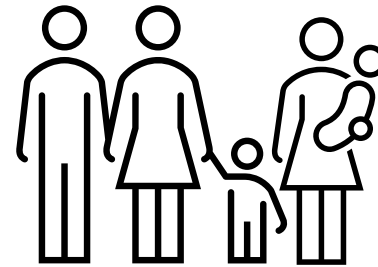
Next steps: Mechanisms?



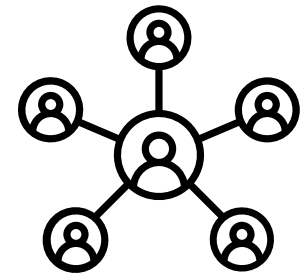
Employment



Migration Experience



Household/Family



Social Networks

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Photo Credit: Chantel Pheiffer, Aug 2019, WITS Rural Facility