SESSION 3 DISCUSSION: HOW RESEARCH IN LMICS CAN INFORM SOCIAL POLICY INTERVENTIONS

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OVERVIEW

• Social protection policies have been expanding around the world, with over 130 countries using cash transfers as part of their social protection programs

- Evidence on the role of social protection policies in health and well-being of older adults in LMICs remains nascent
 - Lack of data \rightarrow ideally need large, longitudinal, population-based samples
 - Challenges to causal identification \rightarrow difficulty to identify valid instruments even when policies change
 - Transportability is challenging \rightarrow not only to HICs, but across LMIC settings
- Evidence from South Africa and other settings show promising effects on older adults' health

SOCIAL PROTECTION AND OLDER ADULTS' HEALTH: CASE EXAMPLES FROM SOUTH AFRICA

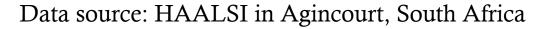
Cash Transfer Exposure	Target	Eligibility Expansion			
Old Age Pension	Older adults	Age expansion for men from 65 to 60 years old from 2008 to 2010			
Child Support Grant	Caregivers of young children	Upper age limit for young children expanded from 7 to 18 from 2003 to 2012			

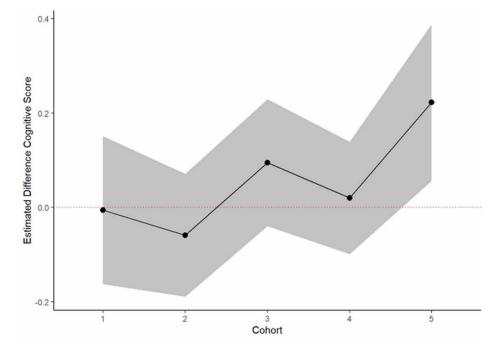


NIA R01AG069128 (MPIs: Rosenberg, Kobayashi)

SOCIAL PROTECTION AND OLDER ADULTS' HEALTH: CASE EXAMPLES FROM SOUTH AFRICA

- Men in 'transition cohorts' who benefited from the Old Age Pension expansion:
 - Better cognitive function than predicted based on trends in the cohort of men who did not benefit from the expansion (0.22 SD)
- Not observed in a negative control analysis among women of the same birth cohorts
 - Not exposed to expansion





*X-axis displays each cohort in terms of their number of extra years of pension eligibility

Jock J, Kobayashi L, Chakraborty R, Chen X, Wing C, Berkman L, Canning D, Kabudula CW, Tollman S, Rosenberg M. <u>Effects of Pension</u> <u>Eligibility Expansion on Men's Cognitive Function: Findings from Rural</u> <u>South Africa</u>. J Aging Soc Policy. 2023 Mar 28;:1-20.

SOCIAL PROTECTION AND OLDER ADULTS' HEALTH: CASE EXAMPLES FROM SOUTH AFRICA



• Women with more CSG income (>10 years coverage):

• Better cognition (0.15 SD)

 Not observed in women with 5+ children, although may be imprecisely estimated

Data source: HAALSI in Agincourt, South Africa

Chakraborty R, Kobayashi LC, Jock J, Wing C, Chen X, Phillips M, Berkman L, Kahn K, Kabudula CW, Rosenberg M. <u>Child Support Grant expansion and cognitive function among women in rural South Africa: findings from a natural experiment in HAALSI cohort.</u> medRxiv. 2023 Feb 19.

RANDOMIZED CASH TRANSFERS AND OLDER ADULTS' HEALTH: CASE EXAMPLES FROM SOUTH AFRICA

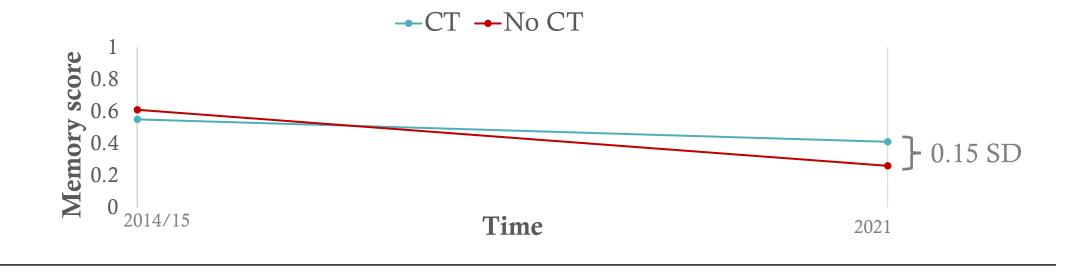
- HPTN 068/Swa Koteka phase 3 RCT of cash transfer intervention
- Primary outcome: reduced HIV incidence among young women
- N=2,533 households randomized 1:1 from 2011 to 2015, with N=863 HPTN households having an older adult member participating in HAALSI starting in 2014/15



- Cash transfer:
 - Monthly payments of 300 Rand (~36 USD), with 100 Rand to the young woman and 200 Rand to her primary caregiver
 - Up to 3 years or when the young woman graduated from school

RANDOMIZED CASH TRANSFERS AND OLDER ADULTS' HEALTH: CASE EXAMPLES FROM SOUTH AFRICA

		Intercept		Cash Transfer		Time		Cash Transfer*Time				
	B	95% CI	p-value	${\mathcal B}$	95% CI	p-value	B	95% CI	p-value	${\mathcal B}$	95% CI	p-value
Estimate	0.61	(0.44, 0.78)	< 0.001	-0.06	(-0.21, 0.08)	0.385	-0.05	(-0.08, -0.02)	0.002	0.03	(0.00, 0.05)	0.040



Rosenberg et al., under review

OTHER RCT AND NATURAL EXPERIMENT FINDINGS AMONG OLDER ADULTS IN LMICS:

- Greater cumulative eligibility to the South African Old Age Pension associated with less self-reported disability (ADLs and IADLs), but not other self-reported measures of general and mental health (Ruimallo-Herl et al., J Econ Ageing 2022)
- Income supplementation experiment in Yucatan, Mexico among adults aged 70+ found improvements in lung function and memory in the treatment vs control group, equivalent to a reduction in age of 5-10 years (<u>Aguila et al., PNAS 2015</u>), also increased usage of healthcare services (<u>Riumallo-Herl et al., BMJ Glob Health 2019</u>), and no effect on caregiving burden (<u>Aguila et al., J Cross Cult Gerontol, 2019</u>)

FUTURE RESEARCH PRIORITIES

- Improved data infrastructure on aging in LMICs
 - Longitudinal population-based data on health outcomes
 - Data to support evaluations of external validity to general populations
 - Comprehensive and publicly available data on social policies (e.g., SPLASH, Gateway Policy Explorer)
- Key health outcomes include dementia, cardiometabolic outcomes, disability, functional capacity, and inequalities in these outcomes which may play out differently across settings

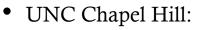
• Methodological work to strengthen causal identification, external validity, and (to a lesser degree) transportability → essential for appropriate policy translation

SUMMARY

- Data from South Africa and other LMICs contexts show promising but not entirely consistent signals of positive health effects of social protection policies amongst older adults
- Heterogeneous treatment effects and lack of evidence for external validity may complicate policy translations within LMIC populations
- Transportability of findings is challenging requires data on effect modifying variables in both samples, which may not be possible or appropriate
- As research in this area expands, caution is warranted around how to handle negative findings

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REFERENCES

- Aguila E, Kapteyn A, Smith JP. Effects of income supplementation on health of the poor elderly: the case of Mexico. Proc Natl Acad Sci U S A. 2015;112(1):70-5. doi: 10.1073/pnas.1414453112.
- Aguila E, López-Ortega M, Angst S. Do Income Supplemental Programs for Older Adults' Help Reduce Primary Caregiver Burden? Evidence from Mexico. J Cross Cult Gerontol. 2019;34(4):385-402. doi: 10.1007/s10823-019-09374-8.
- Chakraborty R, Kobayashi LC, Jock J, Wing C, Chen X, Phillips M, Berkman L, Kahn K, Kabudula CW, Rosenberg M. Child Support Grant expansion and cognitive function among women in rural South Africa: findings from a natural experiment in HAALSI cohort. medRxiv [Preprint]. 2023 Feb 19:2023.02.18.23286130. doi: 10.1101/2023.02.18.23286130.
- Jock J, Kobayashi L, Chakraborty R, Chen X, Wing C, Berkman L, Canning D, Kabudula CW, Tollman S, Rosenberg M. Effects of Pension Eligibility Expansion on Men's Cognitive Function: Findings from Rural South Africa. J Aging Soc Policy. 2023 Mar 28:1-20. doi: 10.1080/08959420.2023.2195785. Epub ahead of print.
- Riumallo-Herl C, Aguila E. The effect of old-age pensions on health care utilization patterns and insurance uptake in Mexico. BMJ Glob Health. 2019;4(6):e001771. doi: 10.1136/bmjgh-2019-001771. Erratum in: BMJ Glob Health. 2019 Dec 11;4(6):e001771corr1.
- Riumallo Herl C, Kabudula C, Kahn K, Tollman S, Canning D. Pension exposure and health: Evidence from a longitudinal study in South Africa. J Econ Ageing. 2022;23. doi: 10.1016/j.jeoa.2022.100411.