

# Guy Harling

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## 1. EDUCATION

- 2013 ScD in Social Epidemiology  
*Harvard School of Public Health*, Boston, MA
- 2006 MPH in Epidemiology and Biostatistics  
*University of Cape Town*, Cape Town, South Africa
- 2003 MA in Economics  
*McGill University*, Montréal, Canada
- 1999 BSc in Economics  
*University of Warwick*, Coventry, United Kingdom

## 2. ACADEMIC APPOINTMENTS

- 2017- **Visiting Scientist**, Department of Epidemiology & Harvard Population and Development Center, *Harvard T.H. Chan School of Public Health*
- 2016- **Senior Research Associate**, Research Department of Infection & Population Health, Institute for Global Health, *University College London*
- 2015-16 **Honorary Research Associate**, Research Department of Infection & Population Health, *University College London*
- 2013-16 **Postdoctoral Research Fellow**, Department of Global Health & Population, *Harvard T.H. Chan School of Public Health*

## 3. PUBLICATIONS

### *Research Articles (\* Mentored work of students)*

1. **Harling G**, Lima Neto AS, Sousa GS, Machado MMT, Castro MC. Determinants of Tuberculosis transmission and treatment abandonment in Fortaleza, Brazil. *BMC Public Health*, 2017. 17:508.

2. **Harling G**, Perkins JM, Gómez-Olivé FX, Morris KA, Wagner RG, Montana L, Kabudula C, Bärnighausen TW, Kahn K, Berkman L. Interviewer-driven variability in social network reporting: results from Health and Aging in Africa: a Longitudinal Study of an INDEPTH community (HAALSI) in South Africa. *Field Methods*, 2017. Accepted for publication.
3. Manne-Goehler J, Montana L, Gómez-Olivé FX, Rohr J, **Harling G**, Wagner R, Wade A, Kabudula CW, Tollman S, Berkman LF, Bärnighausen TW, Gaziano TA. The ART advantage: healthcare utilization for diabetes and hypertension in rural South Africa. *Journal of Acquired Immune Deficiency Syndromes*, 2017. Accepted for publication.
4. **Harling G**, Moyo S, McGovern ME, Mabaso M, Marra G, Bärnighausen TW, Rehle T. National South African HIV prevalence estimates robust despite substantial test non-participation. *South Africa Medical Journal*, 2017. Accepted for publication.
5. **Harling G**, Onnela JP. The impact of degree truncation via fixed choice designs on the spread of contagious processes on networks. *Network Science*, 2017. Accepted for publication. [arXiv preprint:1602.03434]
6. Oldenburg CE, Ortblad KF, Chanda M, Mwanda K, Nicodemus W, Sikaundi R, Fullem A, Baresi LG, **Harling G**, Bärnighausen TW. Zambian Peer Educators for HIV Self-Testing (ZEST) study: rationale and design of a cluster randomised trial of HIV self-testing among female sex workers in Zambia. *BMJ Open*, 2017. 7:e014780.
7. \* De Neve J-W, **Harling G**. Offspring schooling associated with increase in parental old-age survival in rural KwaZulu-Natal, South Africa. *Social Science & Medicine*, 2017. 176: 149-157.
8. **Harling G**, Wang R, Onnela J-P, De Gruttola V. Leveraging contact network structure in the design of cluster randomized trials. *Clinical Trials*, 2017, 14 (1), 37-47. [Harvard Biostatistics Working Paper 199; arXiv preprint:1610.09926]
9. Valeri L, Patterson-Lomba O, Gurmu Y, Ablorh A, Bobb J, Townes W, **Harling G**. Predicting subnational Ebola virus disease epidemic dynamics from sociodemographic indicators. *PLoS ONE*, 2016. 11(10): e0163544.
10. \* Oldenburg CE, Bärnighausen TW, Tanser F, Iwuji CC, De Gruttola V, Seage III GR, Mimiaga MJ, Mayer KH, Pillay D, **Harling G**. Antiretroviral therapy to prevent HIV acquisition in serodiscordant couples in a hyperendemic community in rural South Africa. *Clinical Infectious Diseases*, 2016. 63(4): 548-554.
11. **Harling G**, Bärnighausen TW. The role of partners' educational attainment in the association between HIV and education amongst women in seven sub-Saharan African countries. *Journal of the International AIDS Society*, 2016; 19:20038.
12. **Harling G**, Newell M-L, Tanser F, Bärnighausen TW. Partner age-disparity and HIV incidence risk for older women in rural South Africa. *AIDS & Behavior*, 2015; 19(7): 1317-26.

13. **Harling G**, Tanser F, Mutevedzi T, Bärnighausen TW. Assessing the validity of respondents' reports of their partners' ages in a rural South African population-based cohort, *BMJ Open*, 2015; e005638.
14. Herbst K, Law M, Geldsetzer P, Tanser F, **Harling G**, Bärnighausen TW. Innovations in data collection in health and demographic surveillance systems to establish causal impacts of health policies to improve the HIV treatment cascade. *Current Opinion in HIV and AIDS*, 2015; 10(6): 483-494.
15. **Harling G**, Newell M-L, Tanser F, Kawachi I, Subramanian SV, Bärnighausen TW. Do age-disparate sexual relationships drive HIV incidence in young women? Evidence from a population cohort in rural KwaZulu-Natal, South Africa. *Journal of Acquired Immune Deficiency Syndromes*, 2014; 66(4): 443-451.
16. **Harling G**, Subramanian SV, Bärnighausen TW, Kawachi I. Income inequality and sexually transmitted infections in the United States: Who bears the burden? *Social Science & Medicine*, 2014. 102: 174-182.
17. **Harling G**, Castro MC. A spatial analysis of social and economic determinants of tuberculosis in Brazil. *Health & Place*, 2014. 25C: 56-67.
18. Oldenburg CE, Bärnighausen TW, **Harling G**, Mimiaga MJ, Mayer KH. Adherence to post-exposure prophylaxis for non-forcible sexual exposure to HIV: a systematic review and meta-analysis. *AIDS & Behavior*, 2014; 18(2): 217-225.
19. **Harling G**, Subramanian SV, Bärnighausen TW, Kawachi I. Socioeconomic disparities in sexually transmitted infections among young adults in the United States: examining the interaction between income and race/ethnicity. *Sexually Transmitted Diseases*, 2013. 40(7): 575-581.
20. Beck EJ, Avila C, Gerbase S, **Harling G**, DeLay P. Counting the cost of not costing HIV health facilities accurately: pay now, or pay more later. *Pharmacoeconomics*, 2012. 30(1): 887-902.
21. Beck EJ, Mandalia S, **Harling G**, Santas XM, Mosure D, DeLay PR. Protecting HIV-information in countries scaling up HIV services. *Journal of the International AIDS Society*, 2011. 14(1): 6.
22. Müller AD, Jaspan HB, Myer L, Lewis A, **Harling G**, Bekker LG, Orrell C. Standard measures are inadequate to monitor pediatric adherence in a resource-limited setting. *AIDS & Behavior*, 2011; 15(2):422-431.
23. **Harling G**, Msisha W, Subramanian SV. No association between HIV and intimate partner violence among women in 10 developing countries. *PLoS ONE*, 2010. 5(12): e14257.

24. Beck EJ, **Harling G**, Gerbase S, DeLay P. The cost of treatment and care for people living with HIV infection: implications of published studies, 1999-2008. *Current Opinion in HIV and AIDS*, 2010. 5(3): 215-224.
25. **Harling G**, Ehrlich R, Myer L. The social epidemiology of tuberculosis in South Africa: a multilevel analysis. *Social Science & Medicine*, 2008; 66(2); 492-505.
26. **Harling G**, Wood R. The evolving cost of HIV in South Africa: changes in healthcare cost with duration on ART for public sector patients. *Journal of Acquired Immune Deficiency Syndromes*, 2007; 45: 348-354.
27. **Harling G**, Orrell C, Wood R. Healthcare utilization of patients accessing an African national antiretroviral treatment program. *BMC Health Services Research*, 2007; 7: 80.
28. **Harling G**, Bekker L-G, Wood R. The cost of an ART clinic. *South African Medical Journal*, 2007; 97(8): 593-596.
29. Orrell C, **Harling G**, Lawn S, Kaplan R, McNally M, Bekker L-G, Wood R. Conservation of first line antiretroviral treatment regimen where therapeutic options are limited. *Antiviral Therapy*, 2007; 12: 83-88.
30. Lawn SD, Myer L, **Harling G**, Orrell C, Bekker L-G, Wood R. Determinants of mortality and nondeath losses from an antiretroviral treatment service in South Africa: implications for programme evaluation. *Clinical Infectious Diseases*, 2006; 43: 770-776.
31. **Harling G**, Wood R, Beck EJ. Efficiency of interventions in HIV infection, 1994-2004. *Disease Management & Health Outcomes*, 2005; 13(6): 371-394.

### **Book Chapters**

1. **Harling G**, Soderstrom L. The contribution of cost-effectiveness analysis. In: Beck EJ, Mays N, Whiteside A, Zuniga JM (Eds). *The HIV pandemic: local and global implications*. Oxford: Oxford University Press. 2006.

### **Letters**

1. Oldenburg CE, Bärnighausen TW, Tanser F, Iwuji CC, De Gruttola V, Seage III GR, Mimiaga MJ, Mayer KH, Pillay D, **Harling G**. Reply to Cohen, et al. *Clinical Infectious Diseases*, 2016. 63(12): 1680.
2. **Harling G**, Tsai AC, Subramanian SV. Intimate partner violence and HIV: embracing complexity. *Lancet Global Health*, 2015; 3(6): e313.
3. **Harling G**, Subramanian SV. The perils of conducting meta-analyses of observational data. *Journal of the International AIDS Society*, 2014; 17: 19112.

**Manuscripts under review**

1. Chanda MM, Ortblad KF, Mwale M, Chongo S, Kanchele C, Kamungoma N, Barresi LG, **Harling G**, Bärnighausen TW, Oldenburg CE. Contraceptive use and unplanned pregnancy among female sex workers in Zambia.
2. Chanda MM, Ortblad KF, Mwale M, Chongo S, Kanchele C, Kamungoma N, Fullem A, Dunn C, Barresi LG, **Harling G**, Bärnighausen TW, Oldenburg CE. HIV self-testing among female sex workers in Zambia: A randomized controlled trial.
3. **Harling G**, Gumede D, Mutevedzi T, McGrath N, Seeley J, Pillay D, Bärnighausen TW, Herbst K. The advantages and disadvantages of self-interviews for sensitive topics: a randomized trial of electronic delivery methods for a sexual behaviour questionnaire in rural South Africa. [SSRN preprint: <http://dx.doi.org/10.2139/ssrn.2945424>]
4. **Harling G**, Morris KA, Manderson L, Perkins JM, Berkman LF. Social networks and social support among older adults in rural South Africa: Findings from the Health and Aging in Africa: a Longitudinal Study of an INDEPTH community in South Africa. [Harvard Centre for Health and Development Studies Working Paper 17(1); SSRN preprint: <http://dx.doi.org/10.2139/ssrn.2977867>]
5. Manne-Goehler J, Wiesner L, Bärnighausen TW, Montana L, Tollman S, Rohr J, Geldsetzer P, Wagner R, **Harling G**, Gómez-Olivé FX, Kahn K. Validating self-reported use of antiretroviral therapy in rural South Africa.
6. Oldenburg CE, Bor J, **Harling G**, Tanser F, Mutevedzi T, Shahmanesh M, Seage GR, De Gruttola V, Mimiaga MJ, Mayer KH, Pillay D, Bärnighausen TW. Impact of early antiretroviral therapy eligibility on HIV acquisition: Household-level evidence from rural South Africa.
7. \* Ortblad KF, Bärnighausen TW, Chimbindi N, Masters SH, Salomon J, **Harling G**. Predictors of circumcision incidence in a traditionally non-circumcising community: a population-based cohort study in KwaZulu-Natal, South Africa
8. \* Saffier IP, Kawa H, **Harling G**. A scoping review of prevalence, incidence and risk factors for HIV infection amongst young people in Brazil.

**Other Publications**

1. Manual for costing HIV facilities and services. Geneva: UNAIDS. 2011.
2. Workbook for the collection of cost information on HIV facilities and services. Geneva: UNAIDS. 2011.
3. **Harling G**, C Orrell C, Wood R. The impact of delaying uptake of second line therapy on the cost-effectiveness of antiretroviral treatment in South Africa. Working Paper. Desmond Tutu HIV Centre, Cape Town. 2006.

4. Grimard F, **Harling G**. The impact of tuberculosis on economic growth. Working Paper. McGill University, Montréal. 2004.

#### 4. GRANT SUPPORT

- 2015-19 Co-Investigator. NICHD R01 HD084233. P.I. Tanser & Bärnighausen (\$1,350,000). Causal pathways to antiretroviral treatment impact on population health.
- 2015-17 Co-Investigator. International Initiative for Impact Evaluation. P.I. Bärnighausen (\$450,000). The causal impact of HIV self-test kits on HIV testing among female sex workers in Kampala, Uganda.
- 2015-17 Co-Investigator. International Initiative for Impact Evaluation. P.I. Bärnighausen (\$450,000). A peer educator-delivered HIV self-testing intervention for female sex workers in Zambian border towns.
- 2012 Research travel grant. Committee on African Studies, Harvard University.(\$2500)

#### 5. AWARDS AND HONORS

- 2016 Travel Scholarship. International AIDS Conference.
- 2015 Travel Scholarship. Workshop on modeling the spread and control of Ebola in West Africa.
- 2013-14 Barry R. & Irene Tilenius Bloom Fellowship. Harvard School of Public Health.
- 2012 Travel Scholarship. Society for Epidemiologic Research Annual Conference.
- 2008-13 Doctoral Scholarship. Harvard School of Public Health. (full fees & stipend)
- 2006 Ethne Jacke Prize, best student in the MPH program, University of Cape Town.

#### 6. INVITED PRESENTATIONS

- 2016 Social and sexual networks in rural South Africa. *Department of Infectious Disease Epidemiology, Imperial College London, London. 7 December.*
- Novel designs for cluster randomized trials leveraging contact network structure. *Proctor Foundation, University of California, San Francisco, CA. 9 November.*
- Offspring education and parental survival in rural South Africa: Evidence from a population-based cohort. Distinguished Scholar Series, *School of Community Health Sciences, University of Nevada, Reno, NV. 7 November.*
- Workshop on Missing Data with emphasis on Sample Selection Models. *Birkbeck, University of London, London. 15-16 September.*

- 2015 Workshop on missing data and selection models. *Centers for Disease Control and Prevention*, Atlanta, GA, 3-4 September.
- Piloting a randomized trial of electronic delivery methods. *Africa Centre for Health and Population Studies, University of KwaZulu-Natal*. Mtubatuba, South Africa. 26 August.
- Relationship age disparities and HIV acquisition: evidence from women in rural KwaZulu-Natal. *Department of Population Health, London School of Hygiene and Tropical Medicine*. London. 17 June.
- Adjusting biomarker prevalence estimates for non-response: moving beyond imputation and weighting. *Centre for Sexual Health & HIV Research, University College London*. London. 16 June.
- 2014 Age disparities and HIV acquisition: evidence from women in rural KwaZulu-Natal. *School of Public Health and Family Medicine, University of Cape Town*. Cape Town, South Africa. 3 October.
- Age disparities and HIV acquisition: evidence from women in rural KwaZulu-Natal. *South African Centre for Epidemiological Modelling and Analysis (SACEMA), University of Stellenbosch*, South Africa. 1 October.
- Age disparities and HIV acquisition: evidence from women in rural KwaZulu-Natal. *Africa Centre for Health and Population Studies, University of KwaZulu-Natal*, Mtubatuba, South Africa. 23 September.

## 7. CONFERENCE ACTIVITY

### Oral Presentations

- 2016 Immediate HIV treatment prevents new infections: causal evidence on the real-world impact of immediate vs. deferred ART in rural South Africa. *21<sup>st</sup> International AIDS Conference*, Durban, South Africa, 18-22 July. Available at: <https://youtu.be/Pt1hi48nJAw>
- Interviewer identity and learning effects as sources of variation in self-reported reported social networks. *Sunbelt XXXVI*. Newport Beach, CA, 6-10 April.
- 2015 Degree truncation and its impact on spreading process outcomes. *Sunbelt XXXV*. Brighton, UK, 24-28 June.
- 2014 Age-disparate relationships and HIV incidence amongst rural South African women. *21<sup>st</sup> Conference on Retroviruses and Opportunistic Infections*. Boston, MA, 3-6 March. Available at: [www.croiwebcasts.org/console/player/22285](http://www.croiwebcasts.org/console/player/22285)

- 2006 The impact of delaying uptake of second line therapy on the cost-effectiveness of antiretroviral treatment in South Africa. *International AIDS Economics Network meeting*, Toronto, ON, 11-12 August.

### Poster Presentations

- 2017 Social networks and social support among older men and women in rural South Africa: findings from Health and Aging in Africa: a Longitudinal Study of an INDEPTH community in South Africa (HAALSI). *Population Association of America*, Chicago, IL, 27-29 April.
- 2016 National South African HIV prevalence estimates robust despite substantial test non-participation: evidence from the 2012 national population-based survey. *21<sup>st</sup> International AIDS Conference*, Durban, South Africa, 18-22 July.
- 2015 Validity of partner age reports in a rural South African population-based cohort. *Population Association of America*, San Diego, CA, 29 April – 2 May.
- Novel designs for cluster randomized trials leveraging contact network structure. *Modeling the Spread and Control of Ebola in West Africa*, Atlanta, GA, 22-23 February.
- 2014 The interplay of own and partner's education on HIV risk in sub-Saharan Africa. *Society for Epidemiological Research*, Seattle, WA, 24-27 June.
- 2012 School income inequality and sexually transmitted infections in the United States. *Society for Epidemiological Research*, Minneapolis, MN, 27-30 June.
- 2006 Healthcare utilization by a cohort of late-stage HIV-positive patients commencing antiretroviral medication in South Africa. *16<sup>th</sup> International AIDS Conference*, Toronto, ON, 13-18 August.

### 8. LOCAL PRESENTATIONS

- 2017 Impact of non-response on Natsal STI estimates & Mapping South African social and sexual networks. *Research Department of Infection & Population Health, University College London*. 21 March.
- 2015 Workshop on missing data and Selection models. *Harvard T.H. Chan School of Public Health*. 8 September.
- 2014 Age-disparate relationships and HIV incidence amongst rural South African women. HIV Working Group Seminar series, *Department of Biostatistics, Harvard School of Public Health*. 24 April.
- 2013 Income inequality and sexually transmitted infections: Evaluating competing explanations. Center Seminar series. *Harvard Center for Population and Development Studies*, Cambridge, MA. 22 February.



## 9. TEACHING

### ICPSR Summer Program in Quantitative Methods of Social Research

2014 *Teaching Assistant, Analysis of Large-Scale Networks*

### Harvard School of Public Health (graduate courses)

2013 *Teaching Assistant, Inferential Methods for Infectious Diseases*

2012 *Teaching Assistant, HIV Interventions: Rationale, Design, and Evaluation*

2012, 13 *Teaching Assistant, Introduction to Spatial Analysis*

2011 *Teaching Assistant, Mathematical Modelling of Infectious Diseases*

2009-13 *Statistical Assistant, Student Computing Facility*

### McGill University (undergraduate courses)

2002, 03 *Teaching Assistant, Economic Development*

2002 *Teaching Assistant, Microeconomic Theory*

2001 *Teaching Assistant, Microeconomic Analysis*

## 10. OTHER RESEARCH EXPERIENCE

### Harvard School of Public Health

2009-10 *Research Assistant, SV Subramanian. Intimate partner violence and HIV*

2009 *Research Assistant, Günter Fink. Education and health in sub-Saharan Africa*

### McGill University

2003 *Research Assistant, Eduard Beck. Review of cost-effectiveness studies for HIV*

2002-03 *Research Assistant, Dick Menzies & Franque Grimard. Economic burden of TB*

2002 *Research Assistant, Patrick LeBlond. International monetary integration*

## 11. AD HOC REVIEW ACTIVITIES

### Peer-reviewed journals

African Journal of AIDS Research

AIDS

AIDS & Behavior

AIDS Care

American Journal of Epidemiology

BMC Infectious Diseases

BMC Public Health

BMC Research Notes

BMJ Open

Cost Effectiveness & Resource Allocation

Croatian Medical Journal

Epidemics

Global Public Health

Int J Environmental Research & Public Health

Int J Tuberculosis & Lung Disease

J Acquired Immune Deficiency Syndromes

J Epidemiology & Community Health

PLoS Medicine

PLoS ONE

Population Research and Policy Review

Sexually Transmitted Infections  
Social Science & Medicine

Spatial & Spatio-temporal Epidemiology

### ***Scholarly conferences***

Society for Epidemiological Research Annual Conference  
World Congress of Epidemiology

## **12. UNIVERSITY & PROFESSIONAL SERVICE**

### **Harvard School of Public Health**

2013-14 *Workshops chair*, Postdoctoral Association  
2010-11 *President*, Student Government  
2010, 11 *Member*, Harvard Advisory Committee on Shareholder Responsibility  
2009-13 *Representative*, Student Government

## **13. MEDIA COVERAGE**

- 2017 Durban Mercury. *Schooling benefits parent health*. <https://goo.gl/xYz9j1>  
AIDSMap. *Peer navigators improve linkage to HIV care and retention in care in South Africa*. <https://goo.gl/dlV2u9>
- 2016 MedPage Today. *HIV Test-and-Treat: A Tricky Issue*. <http://goo.gl/ZqP3lY>
- 2015 Zululand Observer. *Techno-savvy interview methods to aid HIV studies*.  
<http://goo.gl/NMvtzs>
- 2014 The Times, South Africa. *Sugar Daddies Not Riskier*. <http://goo.gl/VMD7Pu>  
The Sunday Tribune. *South Africa: Fighting 'Sugar Daddies' - or Raising 'Sugar' Girls?* <http://goo.gl/GbBaE4>  
Scientific American Blog. *Are "Sugar Daddies" to Blame for HIV Transmission in Africa?* <http://goo.gl/4EanKi>  
Ground Up. *Are sugar daddies bad for your health?* <http://goo.gl/ymo47D>  
Health-e. *Africa: Anti-'Sugar-Daddy' Campaign Not Supported By Evidence*.  
<http://goo.gl/5fGRWw>  
AIDSMap. *Younger women not at higher risk of HIV from relationships with older men, South African study finds*. <http://goo.gl/R7cclj>  
Science Speaks: HIV & TB News. *CROI 2014: Sugar daddies? Multiple concurrent partnerships? Studies debunk HIV driver theories that drove responses*.  
<http://goo.gl/DCsDX4>

#### 14. NON-ACADEMIC EMPLOYMENT

2007-08 *Technical Officer*, Joint United Nations Programme on HIV/AIDS (UNAIDS), Geneva, Switzerland

2004-06 *Health Economist*, Desmond Tutu HIV Centre, Cape Town, South Africa

1999-01 *Research Officer*, Health Practice, National Economic Research Associates, London, United Kingdom

#### 15. LANGUAGES & SKILLS

<i>English</i>	Native		
<i>French</i>	Reading: Excellent	Speaking: Conversational	Writing: Good
<i>German</i>	Reading: Good	Speaking: Basic	Writing: Basic

*Statistical software* Stata, SAS, R, TreeAge, WinBUGS, MLwiN, GeoDa

*Programing* Python

*GIS* ArcGIS, R

*Survey design* Open Data Kit; REDCap