Directory of HIV and AIDS Research Articles Published in 2017 relevant to Lesotho

Table of Contents

List of Acronyms

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
EAC	Enhanced Adherence Counselling
HBHTC	Home-based HIV Testing and Counselling
HIV	Human Immunodeficiency Virus
IHME	Institute for Health Metrics and Evaluation
MSP	Multiple Sexual Partnerships
NAC	National AIDS Commission
NCD	Non-communicable Disease
PEPFAR	President’s Emergency Plan for AIDS Relief
PMTCT	Prevention of Mother-to-child Transmission
TB	Tuberculosis
UNAIDS	United Nations Programme on HIV/AIDS
VL	Viral Load
WHO	World Health Organization

1. Introduction

The HIV/AIDS epidemic has had a drastic impact on all sectors throughout Lesotho. Lesotho has the second highest HIV prevalence in the world at 24.3% among adults aged 15-49 years. Females bear a higher burden with an HIV prevalence of 29.7% compared to 19.1% for males aged 15-49 years. People continue to become infected, as the HIV incidence in Lesotho is 1.47 for 15-49 year olds.[1] In 1990, life expectancy was 64.3 years for females and 60.9 years for males; however, in 2016, life expectancy was 53.7 years for females and 47.1 years for males. Although annual AIDS related deaths have been decreasing significantly over the years from a peak of 12,000 in 2005 to 4,900 in 2017 for all ages,[2] HIV/AIDS is still the leading cause of death and morbidity in Lesotho.[3]

Lesotho has made great progress in addressing the HIV epidemic. Of those who are HIV positive, 77.2% know their status. Of those who know their HIV positive status, 90.2% are on treatment. Of those who are on treatment, 88.3% are virally suppressed.[1] Lesotho is on track to meet 90-90-90 targets by about 2020. In order to meet the global target of reducing new infections by 75% by 2020, the government of Lesotho is committed to revitalizing HIV prevention.

Given the high burden of HIV/AIDS in Lesotho, it is crucial that HIV/AIDS prevention, treatment, support, and policy initiatives are innovative, effective, and evidence-based. Each year, a plethora of HIV/AIDS-related literature is published. It is pertinent that the results and recommendations from the published literature is integrated into all HIV/AIDS-related sectors in Lesotho to ensure the best outcomes for Basotho.

In order to increase accessibility to this relevant information, this directory of research published in 2017 pertaining to HIV/AIDS in Lesotho was assembled. Primary literature was obtained through an extensive search of online databases. Note that although this directory contains important new information about HIV/AIDS in Lesotho, it may not be exhaustive of all new literature, as the directory only contains primary research published in journals in 2017. The literature has been divided into the following categories: Prevention, Treatment, Care, and Support, Impact Mitigation, Policy, Financing, Stigma and Discrimination, and Other.

By separating the newest results and recommendations around HIV/AIDS in Lesotho into categories, non-governmental organizations, government ministries, international partners, community-based organizations, faith-based organizations, and other stakeholders will be able to easily access the most up-to-date HIV/AIDS recommendations for Lesotho.

Adopting recommendations in the newly published literature into programming around HIV/AIDS will increase Lesotho's capacity to address the HIV/AIDS epidemic using effective, evidence-based strategies and allow all stakeholders to collaborate to improve health outcomes for Lesotho.

---

[1] Lesotho Population-based HIV Impact Assessment (LePHIA), 2017
[2] Lesotho HIV and AIDS estimates, 2018
[3] Institute for Health Metrics and Evaluation, 2018

2. Publications on HIV/AIDS Prevention

2.1 Toward 90-90-90: identifying those who have never been tested for HIV and differences by sex in Lesotho

Journal: AIDS Care

Main Author: Carrasco MA
Other Contributing Authors: Fleming P, Wagman J, Wong V

Abstract: To reach HIV epidemic control it is important to ensure that those who have been tested access HIV testing and counseling (HTC) particularly in the context of a generalized HIV epidemic. Using data from the 2014 Lesotho Demographic Health Survey bivariate and multivariate logistic regressions were conducted to determine the associations between never tested for HIV and key socio-cognitive characteristics by sex. Marginal probabilities at the means were calculated for the socio-cognitive variables for men and women to ascertain the magnitude of the differences in the likelihood of never being tested by sex. We stratified by gender and controlled for age, education. Religion, marital status, palace of residence, and years circumcised (for men only). Results indicate that more men than women have never been tested (x^2=461.16, $p<0.001$); and, among men, acceptance of gender based violence (Odds ratio [OR]:1.44, $p<0.001$), holding discriminatory attitudes (OR: 1.50, $p<0.001$), and not having basic HIV prevention knowledge (OR:1.53, $p<0.001$) were significantly associated with never being tested. The likelihood of never being tested among those who had these three socio-cognitive characteristics was much higher among men (0.56, $p<0.001$) than women (0.20, $p<0.001$). Given the strong sex differential, there is an urgent need for strategies specifically targeting men in order to effectively promote HTC uptake among them. Additionally, results suggest that those strategies should integrate strategies to address GBV acceptance, HIV prevention knowledge, and HIV discrimination or link men to programs addressing these.

2.2 Prevalence, patterns and correlates of HIV disclosure among TB-HIV patients initiating antiretroviral therapy in Lesotho

Journal: AIDS Care

Main Author: Hayes-Larson E

Other Contributing Authors: Hirsch-Moverman Y, Saito S, Frederix K, Pitt B, Llang Maama B, Howard AA

Abstract: Disclosure of HIV-positive status has important implications for patient outcomes and preventing HIV transmission, but has been understudied in TB-HIV patients. We assessed disclosure patterns and correlates of non-disclosure among adult TB-HIV patients initiating ART enrolled in the START Study, a mixed-methods cluster-randomized trial conducted in Lesotho, which evaluated a combination intervention package (CIP) versus standard of care. Interviewer-administered questionnaire data were analyzed to describe patterns of disclosure. Patient-related factors were assessed for association with non-disclosure to anyone other than a health-care provider and primary partners using generalized linear mixed models. Among 371 participants, 95% had disclosed their HIV diagnosis to someone other than a health-care provider, most commonly a spouse/primary partner (76%). Age, TB knowledge, not planning to disclose TB status, greater perceived TB stigma, and CIP were associated with non-disclosure in unadjusted models ($p < .1$). In adjusted models, all point estimates were similar and greater TB knowledge (adjusted odds ratio [aOR] 0.59, 95% confidence interval [CI] 0.39-0.90) and CIP (aOR 0.20, 95% CI 0.05-0.79) remained statistically significant. Among 220 participants with a primary partner, 76% had disclosed to that partner. Significant correlates of partner non-disclosure ($p < .1$) in unadjusted analyses included being female, married/cohabitating, electricity at home, not knowing if partner was HIV-positive, and TB knowledge. Adjusted point estimates were largely similar, and being married/cohabitating (aOR 0.03, 95% CI 0.01-0.12), having electricity at home (aOR 0.38, 95% CI 0.17-0.85) and greater TB knowledge (aOR 0.76, 95% CI 0.59-0.98) remained significant. In conclusion, although nearly all participants reported disclosing their HIV status to someone other than a health-care provider at ART initiation, nearly a quarter of participants with a primary partner had not disclosed to their partner. Additional efforts to support HIV disclosure (e.g., counseling) may be needed for TB-HIV patients, particularly for women and those unaware of their partners' status.

2.3 Why are orphaned adolescents more likely to be HIV positive? Distinguishing between maternal and sexual HIV transmission using 17 nationally representative datasets in Africa

Journal: Journal of Adolescent Health
Main Author: Kidman, R
Other Contributing Authors: Philip A

Abstract: Why do orphans have higher rates of HIV infection than nonoprphaned peers? Research consistently assumes that orphans acquires HIV primarily through sexual behavior, but infections may instead be due to maternal transmission. Although these two pathways have very different implications research, we compare the contribution of maternal and sexual transmission to HIV infections among orphans in Africa. We use Demographic and Health Survey data for 21.463 women and 18,359 men from 17 countries. We propose a conceptual framework linking orphanhood to HIV, and use mediation analysis and structural equation modeling to compare the potential contribution of maternal transmission (measured through direct pathways from orphanhood to HIV) and sexual transmission (measure through reports of risky sexual behavior) to orphan HIV infection. Our results suggest that maternal transmission is the predominant pathway of HIV infection among orphaned adolescents: there is strong evidence for a direct pathway from maternal (odds ratio [OR]: 2.45; 95% confidence interval [CI]: 1.72-3.51 for females and RO 2.45; 95% CI:1.53-3.90 for males) and double orphanhood (OR: 2.69; 95% CI: 1.97-3.66 and OR: 2.53; 95% CI: 1.68-3.83, respectively) to HIV; greater excess HIV risk in maternal versus paternal orphans. The contribution of sexual behavior is largely not significant. We do not observe correspondingly high orphan disparities in other sexually transmitted diseases. Maternal transmission is a more likely explanation than sexual transmission for heightened HIV infection among orphans. These results suggest that programs designed to address HIV infection among adolescents should focus on reducing maternal transmission and on identifying and testing undiagnosed HIV among orphans.

2.4 Is traditional male circumcision effective as an HIV prevention strategy? Evidence from Lesotho

Journal: PLoS ONE
Main Author: Maffioli, EM

Abstract: In many developing countries, male circumcision has been promoted as an effective HIV prevention strategy, and medical randomized controlled trials have indeed shown a causal link. However, there is limited empirical evidence to support this conclusion in countries where individuals can voluntary opt for different types of circumcision. The present study considers male circumcision in Lesotho, where HIV prevalence is among the highest in the world (23%). Here, men can opt for one of two types of circumcision: traditional male circumcision in initiation schools, or the medical option in health clinics. This paper investigates whether the former has medical effects on individual HIV status that are as beneficial as those shown for the latter. Controlling for the potential individual behavioral response after the operation, it was found that circumcision performed in initiation schools wholly offset the medical benefits of the surgical procedure. This supports anecdotal evidence that the operation performed by traditional circumcisers does not have the same protective effect against HIV transmission as the medical operation. No evidence of "disinhibition" behavior among circumcised men was found, nor differential risky sexual behavior among men circumcised, traditionally or medically. Considering that, in Lesotho, traditional male circumcision is undertaken by more than 90% of circumcised men, the findings highlight the need for further research into how the operation in initiation schools is performed and its medical benefits.

2.5 Covariates of multiple sexual partnerships among sexually active men in Lesotho

Journal: African Journal of Reproductive Health
Main Author: Mhele, KE

Abstract: Multiple sexual partnerships (MSP) have been identified as the main reason for the high rate of HIV prevalence in sub-Saharan Africa, including Lesotho. The aim of this paper is to identify the social and economic variables associated with MSP among men in Lesotho. The study used data from 2009 Lesotho Demographic Health Survey. A sample of 2335 males in the age group 15-44 was used. Participants qualified if they were sexually active during the past year before the survey. Binary logistic regression was used to analyze the data. Results indicated that 29% of the respondents had engaged in sexual intercourse with multiple partners in the past year. Lower age at sexual debut, employment; having ever moved from home in the past year; believing that men have the right to have sex with other women; believing that beating a woman is justified if she argues with husband and having sex with casual partner were associated with an increased likelihood of MSP. On the other hand, coming from household led by a woman reduced the odds ratio. The study recommends that promotion of awareness programmes on MSP coupled with economic empowerment of women should be intensified in Lesotho.

3. Publications on HIV/AIDS Treatment, Care, and Support

3.1 Operative needs in HIV+ populations: an estimation for sub-Saharan Africa

Journal: Surgery
Main Author: Cherewick, ML
Other Contributing Authors: Cherewick SD, Kushner AL
Abstract: In 2015, it was estimated that approximately 36.7 million people were living with HIV globally and approximately 25.5 million of those people were living in sub-Saharan Africa. Limitations in the availability and access to adequate operative care require policy and planning to enhance operative capacity. Data estimating the total number of persons living with HIV by country, sex, and age group were obtained from the Joint United National Programme on HIV/AIDS (UNAIDS) in 2015. Using minimum proposed surgical rates per 100,000 for 4 defined, sub-Saharan regions of Africa, country-specific and regional estimates were calculated. The total need and unmet need for operative procedures were estimated. A minimum of 1,539,138 operative procedures were needed in 2015 for the 25.5 million persons living with HIV in sub-Saharan Africa. In 2015, there was an unmet need of 908,513 operative cases in sub-Saharan Africa with the greatest unmet need in eastern sub-Saharan Africa (427,820) and western sub-Saharan Africa (325,026). Approximately 55.6% of the total need for operative cases is adult women, 38.4% are adult men, and 6.0% are among children under the age of 15. A minimum of 1.5 million operative procedures annually are required to meet the needs of persons living with HIV in sub-Saharan Africa. The unmet need for operative care is the greatest in eastern and western sub-Saharan Africa and will require investments in personnel, infrastructure, facilities, supplies and equipment. We highlight the need for global planning and investment in resources to meet targets of operative capacity.

3.2 Use of index patients to enable home based testing in Lesotho

Journal: Journal of Acquired Immune Deficiency Syndrome
Main Author: DiCarlo, A
Other Contributing Authors: Zerbe AA, Peters ZJ, Frederix D, Nkonyana J, Mantell J, Remien R, El-Sadr W
Abstract: New approaches are needed to expand HIV testing in Lesotho, a small country in southern Africa with a population of approximately 2.2 million and the second highest HIV prevalence globally (24.6% in adults aged 15-49 years). While home-based HIV testing and counseling (HBHTC) offers a feasible and acceptable strategy to increase testing rates by reaching individuals who a have never tested for HIV, HBHTC services are typically implemented through intensive house-to-house efforts. The use of index patients recruited from health facilities to reach household members for targeted HBHTC has been proposed as a pragmatic approach to expand testing coverage and reach those unaware of their HIV status. In this study, we evaluated the feasibility and acceptability of the use of index patients (independent of HIV status) recruited from 2 health centers in Lesotho to facilitate HBHTC and explored the yield of newly diagnosed HIV-positive individuals by the HIV status of the index patient.

3.3 Using mHealth for HIV/TB treatment support in Lesotho: enhancing patient-provider communication in the START study

Journal: Journal of Acquired Immune Deficiency Syndrome
Main Author: Hirsch-Moverman Y
Other Contributing Authors: Daftary A, Yuengling KA, Saito S, Ntoane M, Frederix K, Llang Maama B, Howard AA
Abstract: mHealth is a promising means of supporting adherence to treatment. The Start TB patients on ART and Retrain on Treatment (START) study included real-time adherence support using short-text messaging services (SMS) text messaging and trained village health workers (VHWs). We describe the use and acceptability of mHealth by patients with HIV/tuberculosis and health care providers. Patients and treatment supporters received automated, coded medication and appointment reminders at their preferred time and frequency, using their own phones, and $3.70 in monthly airtime. Facility-based VHWs were trained to log patient information and text message preferences into a mobile application and were given a password-protected mobile phone and airtime to communicate with community-based VHWs. The use of mHealth tools was analyzed from process data over the study course. Acceptability was evaluated during monthly follow-up interviews with all participants and during qualitative interviews with a subset of 30 patients and 30 health care providers at intervention sites. Use and acceptability were contextualized by monthly adherence data. From April 2013 to August 2015, the automated SMS system successfully delivered 39,528 messages to 835 individuals, including 633 patients and 202 treatment supporters. Uptake of the SMS intervention was high, with 92% of the 713 eligible patients choosing to receive SMS messages. Patient and provider interviews yielded insight into barriers and facilitators to mHealth utilization. The intervention improved the quality of health communication between patients, treatment supporters, and providers. HIV-related stigma and technical challenges were identified as potential barriers. The mHealth intervention for HIV/tuberculosis treatment support in Lesotho was found to be a low-tech, user-friendly intervention, which was acceptable to patients and healthcare providers.

3.4 Metabolic syndrome in patients on first-line antiretroviral therapy containing zidovudine or tenofovir in rural Lesotho, Southern Africa

Journal: Tropical Medicine & International Health
Main Author: Labhardt ND
Other Contributing Authors: Muller UF, Ringera I, Ehmer J, Motlatsi MM, Pfeiffer K, Hobbins MA, Muhairwe JA, Muser J, Hatz C

Abstract: To assess the prevalence of metabolic syndrome (MetS) among patients in rural Lesotho who are taking first-line antiretroviral therapy (ART) containing either zidovudine or tenofovir disoproxil. Cross-sectional survey in 10 facilities in Lesotho among adults (≥16 years) patients on non-nucleoside reverse transcriptase inhibitor (NNRTI)-based first-line ART for ≥6 months. MetS was defined according to the International Diabetes Federation criteria. Among 1166 patients (65.8% female), 22.2% (95% CI:19.3-25.3) of women and 6.3% (4.1-9.1) of men met the IDF definition of MetS (P<0.001). In both sexes, there was no significant difference in MetS prevalence between NNRTIs. However, in women taking zidovudine as nucleoside reverse transcriptase inhibitor (NRTI), MetS prevalence was 27.9%, *vs.* 18.8% in those taking tenofovir. In the multivariate logistic regression allowing for socio-demographic and clinical covariates, ART containing zidovudine was associated with MetS in women (aOR 2.17 (1.46-3.22), P<0.001) but not in men. In this study, taking ART containing zidovudine instead of tenofovir disoproxil was an independent predictor of MetS in women, but not in men. The finding endorses WHO’s recommendation of tenofovir as preferred NRTI.

3.5 Exploring the views of health care service providers on life stressors and basic needs of HIV positive mothers in rural areas of Lesotho

Journal: Social Work

Main Author: Mofokeng S

Other Contributing Authors: Green S

Introduction: People succumb to HIV and Aids on a regular basis. HIV and Aids is a disease that is killing people daily. It not only affects the health of sufferers, but also their psychosocial wellbeing and their economic situation. Lesotho is one of the poorest and least developed countries in the world. It has the second highest incidence of HIV, with 23.1% of its population recorded as being HIV positive, 340 000 of them being women. The availability of local support services is crucial to the provision of HIV and Aids care and prevention services for women. As there are fewer social, health and mental services in rural areas in general, women's access to the essential services may be restricted and existing services are more limited in scope than in urban areas. There are a limited number of support services in the rural communities of Lesotho addressing life stressors and basic needs of HIV-positive mothers. One such support service, the Elizabeth Glassier Foundation (www.pedaids.org), provides free prevention of mother-to-child transmission (PMTP) services, comprehensive and family-centred HIV and Aids prevention, care and treatment services, community mobilisation for increased uptake and compliance with HIV and Aids services, and community healthcare workers who help with door-to-door visitation of patients to offer psychosocial support. There is also a mother-to-mothers organisation (www.m2m.org) that offers tracking of defaulters and psychosocial support groups on a monthly basis, which assists in dealing with life stressors that HIV-positive mothers face in their daily lives. Castaneda (2000:560) reported that limited systematically derived information is available regarding the life stressors and basic needs of women who currently live with HIV and Aids in rural communities. Consequently the aim of this investigation was to explore the views of health-care service providers on the life stressors experienced by HIV-positive mothers and how their basic needs are met to determine how health-care service providers and government can provide social support to these mothers.

3.6 When patients fail UNAIDS’ last 90 – the “failure cascade” beyond 90-90-90 in rural Lesotho, Southern Africa: a prospective cohort study

Journal: Journal of the International AIDS Society
Main Author: Labhardt ND
Other Contributing Authors: Ringera I, Lejone TI, Cheleboi M, Wanger S, Muhairwe J, Klimkait T
Abstract: HIV-infected individuals on first-line antiretroviral therapy (ART) in resource-limited settings who do not achieve the last “90” (viral suppression) enter a complex care cascade: enhanced adherence counselling (EAC), repetition of viral load (VL) and switch to second-line ART aiming to achieve resuppression. This study describes the “failure cascade” in patients in Lesotho. Patients aged ≥16 years on first-line ART at 10 facilities in rural Lesotho received a first-time VL in June 2014. Those with VL ≥80 copies/mL were included in a cohort. The care cascade was assessed at four points: attendance of EAC, result of follow-up VL after EAC, switch to second-line in case of sustained unsuppressed VL and outcome 18 months after the initial unsuppressed VL. Multivariate logistic regression was used to assess predictors of being retained in care with viral resuppression at follow-up. Out of 1563 patients who underwent first-time VL, 138 (8.8%) had unsuppressed VL in June 2014. Out of these, 124 (90%) attended EAC and 116 (84%) had follow-up VL (4 died, 2 transferred out, 11 lost, 5 switched to second-line before follow-up VL). Among the 116 with follow-up VL, 36 (31%) achieved resuppression. Out of the 80 with sustained unsuppressed VL, 58 were switched to second-line, the remaining continued first line. At 18 months’ follow-up in December 2015, out of the initially 138 with unsuppressed VL, 56 (41%) were in care and virally suppressed, 37 (27%) were in care with unsuppressed VL and the remaining 45 (33%) were lost, dead, transferred to another clinic or without documented VL. Achieving viral resuppression after EAC (adjusted odds ratio (aOR): 5.02; 95% confidence interval: 1.14–22.09; p = 0.033) and being switched to second-line in case of sustained viremia after EAC (aOR: 7.17; 1.90–27.04; p = 0.004) were associated with being retained in care and virally suppressed at 18 months of follow-up. Age, gender, education, time on ART and level of VL were not associated. In this study in rural Lesotho, outcomes along the “failure cascade” were poor. To improve outcomes in this vulnerable patient group who fails the last “90”, programmes need to focus on timely EAC and switch to second line for cases with continuous viremia despite EAC.

3.7 The treatment cascade in children with unsuppressed viral load - a reality check in rural Lesotho, Southern Africa

Journal: Journal of Acquired Immune Deficiency Syndrome
Main Author: Lejone TI
Other Contributing Authors: Ringera I, Cheleboi M, Wagner S, Muhairwe J, Klimkait T, Labhardt ND
Abstract:
BACKGROUND: As per the guidelines of the World Health Organization, HIV-infected children who do not achieve viral suppression while under antiretroviral therapy (ART) receive enhanced adherence counseling (EAC) with follow-up viral load (VL). A persisting unsuppressed VL after EAC triggers switch to a second-line regimen. We describe the care cascade of children with unsuppressed VL while taking ART.
METHODS: Children, aged <16 years, on first-line ART for ≥ 6 months with unsuppressed VL (≥ 80 copies/mL) at first measurement were enrolled. As per guidelines, children/caregivers received EAC and a follow-up VL after 3 months, whereas those with persisting viremia despite good adherence were eligible for switching to second-line. Eighteen months after the first unsuppressed VL, outcomes were assessed.
RESULTS: Of 191 children receiving first-time VL in May/June 2014, 53 (28%) had unsuppressed viremia. The care cascade of these 53 children was as follows: 49 (92%) received EAC and a follow-up in October 2014 (1 died, 3 lost to follow-up). 36/49 (73%) stayed unsuppressed, but only 24 were switched to second-line. At 18-months follow-up, 10 (19%) were retained in care with suppressed VL, 26 were retained with ongoing viremia (49%), 2 (4%) had died, and 15 (28%) had no VL documentation.
CONCLUSIONS: Only 1 of 5 children with unsuppressed initial VL under ART was retained in care and virally suppressed at 18 months of follow-up. ART programs must increase the focus onto the extremely vulnerable care cascade in children with unsuppressed VL.

3.8 Effectiveness of early initiation of antiretroviral therapy in adults with HIV associated tuberculosis in Lesotho in 2012

Journal: Southern African Journal of Infectious Diseases
Main Author: Lenela M
Other Contributing Authors: Knight S
Abstract: Lesotho has a huge burden of human immunodeficiency virus associated tuberculosis (HIV-TB). In this study we compared the effectiveness of early versus late commencement of antiretroviral therapy (ART) in adults living with HIV-TB in Lesotho. Three out of 17 hospitals were randomly selected and data extracted from the hospitals' tuberculosis (TB) treatment registers for 247 adults living with HIV-TB who completed TB therapy during the first quarter of 2012. Eighty (32%) commenced ART early (<4 weeks), 100 (41%) were started late (≥4 weeks) and 67 (27%) received no ART. Both early and late ART initiators were more likely to have a successful TB outcome (Adjusted Odds Ratio (AOR) 10.1, 95% CI: 3.7 - 27.5 and AOR 8.4, 95% CI: 3.4 - 20.6, respectively) relative to the group who had no ART ($p < 0.001$). Effective treatment exists for managing HIV-TB simultaneously. The guidelines for initiation of ART in adult HIV-TB in Lesotho have not been fully implemented, but those who commenced ART had significant clinical benefits. Health departments must address the challenges encountered in treating HIV-TB simultaneously to ensure those co-infected receive optimal care.

3.9 Mobile Applications: effective tools against HIV in Africa

Journal: Health and Technology
Main Author: Ouattara A
Abstract: Mobile phone applications (apps) provide a new platform for delivering tailored services especially applied to Human Immunodeficiency Virus (HIV) infection prevention and care. To review mobile phone apps currently available related to the prevention and care of HIV infections as well as other diseases. The articles were systematically identified and the research was indexed with the following keywords: Africa, Telephone, Mobile Apps, SMS associated with the word Health, HIV, or PMTCT. Research papers published between 2006 and 2016. In Africa, many mobile health applications have been developed, in different domains such as: disease knowledge, risk reduction/safer disease, health promotion, HIV/AIDS testing information, resources for HIV-positive persons and focus on key populations. Use of SMS and call of mobile phone have the potential of improving adherence to medication in outpatient setting by reminding patients of dosing schedules and attendance to scheduled appointments through SMS and voice calls. Mobile phone apps should be extended to all health facilities, community to increase the impact of new development in the field of HIV testing, Prevention and Treatments.

3.10 Pulmonary tuberculosis diagnostic practices among people living with the human immunodeficiency virus in Lesotho

Journal: International Journal of Tuberculosis and Lung Diseases

Main Author: O'Connor D.E.
Other Contributing Authors: Frederix K, Saito S, Maama LB, Hirsch-Moverman Y, Pitt B, Hayes-Larson E, Lebelo L, Shale M, Howard AA

Abstract:
SETTING: Twelve health facilities in Berea District, Lesotho, that participated in the Start TB Patients on ART and Retain on Treatment (START) Study, a mixed-methods cluster-randomized trial evaluating a combination intervention package to improve early initiation of antiretroviral therapy (ART) and atni-tuberculosis treatment success among patients with tuberculosis (TB) and human immunodeficiency virus (HIV).
OBJECTIVE: To assess TB and HIV diagnostic practices among TB-HIV patients.
DESIGN: A standardized survey assessed services at each facility at baseline. Routine clinical data were abstracted for all newly registered adult TB-HIV patients during the study period. Descriptive statistics were used to assess TB diagnostic practices, timing of the HIV diagnosis, and ART status at TB treatment initiation.
RESULTS: Between April 2013 and March 2015, 1233 TB-HIV patients were enrolled. Among 1215 patients with available data, 87.2% had pulmonary TB, of which 34.8% were bacteriologically confirmed, 40.9% tested negative and 24.3% were not tested. Among 1138 patients with available data, 53.3% had an existing HIV diagnosis, of whom 39.3% were ART-naïve.
CONCLUSION: The majority of pulmonary TB patients were clinically diagnosed, and many were unaware of their HIV status or were ART-naïve despite known status. The Test and Treat Strategy holds promise to prevent TB and reduce TB-related mortality among people living with HIV; however, enhanced TB diagnostic capacity and improved HIV case detection are urgently needed.

3.11 Cryptococcal antigen screening by lay cadres using a rapid test at the point of care: a feasibility study in rural Lesotho

Journal: PLoS ONE
Main Author: Rick F
Other Contributing Authors: Niyibizi AA, Shroufi A, Onami K, Steele S-J, Kuleile M, Muleya I, Chiller T, Walker T, Van Cutsem G
Abstract: Cryptococcal meningitis is one of the leading causes of death among people with HIV in Africa, primarily due to delayed presentation, poor availability and high cost of treatment. Routine cryptococcal antigen (CrAg) screening of patients with a CD4 count less than 100 cells/mm3, followed by pre-emptive therapy if positive, might reduce mortality in high prevalence settings. Using the cryptococcal antigen (CrAg) lateral flow assay (LFA), screening is possible at the point of care (POC). However, critical shortages of health staff may limit adoption. This study investigates the feasibility of lay counsellors conducting CrAg LFA screening in rural primary care clinics in Lesotho. From May 2014 to June 2015, individuals who tested positive for HIV were tested for CD4 count and those with CD4<100 cells/mm3 were screened with CrAg LFA. All tests were performed by lay counsellors. CrAg-positive asymptomatic patients received fluconazole, while symptomatic patients were referred to hospital. Lay counsellors were trained and supervised by a laboratory technician and counsellor activity supervisor. Additionally, nurses and doctors were trained on CrAg screening and appropriate treatment. During the study period, 1,388 people were newly diagnosed with HIV, of whom 129 (9%) presented with a CD4 count<100 cells/mm3. Of these, 128 (99%) were screened with CrAg LFA and 14/128 (11%) tested positive. Twelve of the 14 (86%) were asymptomatic, and received outpatient fluconazole. All commenced ART with a median time to initiation of 15.5 days [IQR: 14–22]. Of the asymptomatic patients, nine (75%) remained asymptomatic after a median time of 5 months [IQR; 3–6] of follow up. One (8%) became co-infected with tuberculosis and died and two were transferred out. The two patients with symptomatic cryptococcal meningitis (CM) were referred to hospital, where they later died. CrAg LFA screening by lay counsellors followed by pre-emptive fluconazole treatment for asymptomatic cases, or referral to hospital for symptomatic cases, proved feasible. However, regular follow-up to ensure proper management of cryptococcal disease was needed. These early results support the wider use of CrAg LFA screening in remote primary care settings where upper cadres of healthcare staff may be in short supply.

3.12 Notes from the field: preliminary results after implementation of a universal treatment program (Test and Start) for persons living with HIV infections – Lesotho October, 2015 – February 2017

Journal: Morbidity and Mortality Weekly Report

Main Author: Schwitters AM

Abstract: Lesotho, a small, mountainous country completely surrounded by the Republic of South Africa, has a population of approximately 2 million persons with an estimated gross national income of $1,280 per capita; 73% of the population resides in rural areas. Lesotho has a generalized human immunodeficiency virus (HIV) epidemic. In 2014, the prevalence of HIV infection among persons aged 15–49 years was 24.6%, with an incidence of 1.9 new infections per 100 person-years of exposure. As the leading cause of premature death, HIV/ AIDS (acquired immunodeficiency syndrome) has contributed to Lesotho's reporting the shortest life expectancy at birth among 195 countries and territories. In 2015, antiretroviral therapy (ART) coverage among HIV-positive persons in Lesotho was estimated to be 42%. In April 2016, Lesotho became the first country in sub-Saharan Africa to adopt the World Health Organization (WHO) recommendations for universal initiation of antiretroviral therapy for all HIV-positive persons, regardless of CD4 count (known as the "Test and Start" program or approach), with nationwide implementation occurring in June 2016. Before implementation of Test and Start, many persons living with HIV infection in Lesotho were not eligible to initiate treatment until their CD4 count was <500 cells/mm·

The President's Emergency Plan for AIDS Relief (PEPFAR) supports treatment activities in 120 sites (114 public and six private) in five of Lesotho's 10 districts. The five districts supported by PEPFAR are home to approximately 75% of all HIV-positive persons in the country. Sites that have a minimum of 200 persons undergoing treatment for HIV infection are eligible for inclusion in the program.

In the 8 months preceding implementation of Test and Start (October 2015–May 2016), 14,948 HIV-positive persons were initiated on ART at the 120 PEPFAR-supported sites. In the 9 months since implementation of Test and Start (June 2016–February 2017), 30,146 persons were initiated on ART at the same sites, representing a 79% increase in the average monthly number of HIV-positive persons who were initiated on treatment (Figure). During the same time, treatment coverage increased 80% among males and 79% among females. The average monthly increases in coverage among persons aged <15 years, 15–24 years, and ≥25 years were 72%,

84%, and 79%, respectively. The average monthly increase in coverage varied by PEPFAR-supported district, ranging from 62% in Mohale's Hoek to 109% in Leribe. In fiscal year 2018 an additional 32 sites that have ≥200 HIV-infected persons undergoing treatment will be supported by PEPFAR in the five districts. Information is not currently available on the percentage of HIV-positive persons newly initiated on treatment who were previously known to be infected, but who did not meet the eligibility criteria for treatment initiation, and the percentage of persons in whom HIV infection was newly diagnosed.

Aligned with the Joint United Nations Programme on HIV and AIDS strategy,* PEPFAR's goal in Lesotho is 80% ART coverage among HIV-positive persons in five districts to achieve epidemic control (i.e., the point at which newly diagnosed HIV infections have decreased and fall below the number of AIDS-related deaths). The partnership between the Lesotho Ministry of Health, PEPFAR, and implementing partners has resulted in promising preliminary results after implementation of Test and Start; sustained

progress will represent a critical step toward achieving epidemic control. Successful implementation of Test and Start in all sites and districts across Lesotho, coupled with additional measures to retain HIV-positive persons newly initiated on treatment, could help maximize the success of Test and Start and the benefit of treatment to prevent new HIV cases.

4. Publications on HIV/AIDS Impact Mitigation

4.1 Linking agriculture and social protection for food security: The case of Lesotho

Journal: Global Food Security
Main Author: Daidone S
Other Contributing Authors: Davis B, Dewbre J, Pellerano L
Abstract: In July 2013 FAO Lesotho began a pilot initiative called the Linking Food Security to Social Protection Programme (LFSSP). The programme's objective was to improve the food security of poor and vulnerable households by providing vegetable seeds and training on improved gardening. The programme was intentionally provided to households eligible for a large-scale social cash transfer, the Child Grants Programme (CGP). In this paper we present findings from the impact evaluation of the two programmes. Overall we find positive effects of the programmmes on homestead gardening and productive agricultural activities. Many of these observed outcomes appear driven by the combination of the two programmes. An additional year of CGP along with one year of the LFSSP achieved a number of outcomes which two years of receiving the CGP alone did not. This pilot has been used as the basis for the design of a national upscale response to El Nino drought in Lesotho including Home Gardening and Nutrition assistance for all CGP beneficiaries who were affected by a sharp increase of food prices.

4.2 Improving agricultural technologies in HIV/AIDS infected/affected communities and for elderly farmers: The case of sub-Saharan Africa

Journal: World Development Perspectives
Main Author: Mandumbu R
Other Contributing Authors: Maringa IK
Reference: 6:38-44
Abstract: The HIV/AIDS pandemic has proven to be one of the single biggest obstacles in attaining household food security in sub-Saharan Africa. This review explores the extent of the HIV/AIDS pandemic and its downstream effects on agriculture. This publication discusses how low input technologies can be used to improve the rural and small scale agriculture based livelihood and discusses the possible ways of transforming the vulnerability of the HIV affected communities and the old people. The objective is to make tasks associated with agricultural production easier through the use of drip kits, jab planters, simple hand tools and zamwipe for applying herbicides. Changing to sustainable farming systems such as conversation agriculture, mycorrhizal inoculation technology, suitable cropping systems and biochar based soil amendments. If properly implemented these have the potential to increase security. Be selecting compatible techniques, the vulnerable portion of the population can move to self sustainance.

4.3 Tobacco use among people living with HIV: analysis of data from demographic and health surveys from 28 low-income and middle-income countries

Journal: The Lancet Global Health

Main Author: Mdege ND

Other Contributing Authors: Shah S, Ayo-Yusuf OA, Hakim J, Siddiqi K

Abstract: Tobacco use among people living with HIV results in excess morbidity and mortality. However, very little is known about the extent of tobacco use among people living with HIV in low-income and middle-income countries (LMICs). We assessed the prevalence of tobacco use among people living with HIV in LMIC's. We used Demographic and Health Survey data collected between 2003 and 2014 from 28 LMIC's where both tobacco use and HIV test data were made publicly available. We estimated the country-specific, regional, and overall prevalence of current tobacco use (smoked, smokeless, and any tobacco use) among 6729 HIV-positive men from 27 LMIC's (aged 15-59 years) and 11,495 HIV-positive women from 28 LMIC's (aged 15-49 years), and compared them with those in 193,763 HIV-negative men and 222,808 HIV-negative women, respectively. We estimated prevalence separately for males and females as a proportion, and the analysis accounted for sampling weights, clustering, and stratification in the sampling design. We computed pooled regional and overall prevalence estimates through meta-analysis with the application of a random-effects model. We computed country, regional, and overall relative prevalence ratios for tobacco smoking, smokeless tobacco use, and any tobacco use separately for males and females to study differences in prevalence rates between HIV-positive and HIV-negative individuals. The overall prevalence among HIV-positive men was 24.4% (95% CI 21.1-27.8) for tobacco smoking, 3.4% (1.8-5.6) for smokeless tobacco use, and 27.1% (22.8-31.7) for any tobacco use. We found a higher prevalence in HIV-positive men of any tobacco use (risk ratio [RR] 1.41 [95% CI 1.26-1.57]) and tobacco smoking (1.46[1.30-1.65]) than in HIV-negative men (both p<0.0001). The difference in smokeless tobacco use prevalence between HIV-positive and HIV-negative men was not significant (1.26 [1.00-1.58];p=0.050). The overall prevalence among HIV-positive women was 1.3% (95% CI 0.8-1.9) for tobacco smoking, 2.1% (1.1-3.4) for smokeless tobacco use, and 3.6% (95% CI 2.3-5.2) for any tobacco use. We found a higher prevalence in HIV-positive women of any tobacco use (RR 1.36 [95% CI 1.10-1.69];p=0.0050), tobacco smoking (1.9 [1.38-2.62]; p<0.0001), and smokeless tobacco use (1.32 [1.03-1.69]; p=0.030) than in HIV-negative women.

4.4 The occurrence and quality of care on non-communicable diseases in people living with HIV in Maseru, Lesotho: a mixed-methods study

Journal: HIV & AIDS Review
Main Author: Mugomeri E
Other Contributing Authors: Khama P, Seshea PC, Bekele B, Mojai S, Maibvise C, Nyoni CN
Abstract: Chronic non-communicable diseases (NCDs) constitute a health problem worldwide. This problem is particularly important in people living with human immunodeficiency virus (PLHIV) in sub-Saharan countries where the prevalence of NCDs is expected to increase due to the epidemiological transition of life spans for PLHIV as treatment outcomes for HIV continue to improve. This study is the first to assess the occurrence and quality of care (QoC) of NCDs in PLHIV and to identify the contextual issues underpinning the QoC in Lesotho – a sub-Saharan country with the second highest prevalence of HIV globally. Based on the Donabedian (2005) model for assessing QoC, the study used a triangulation of quantitative patient responses on QoC of NCDs, their treatment outcomes and qualitative interviews with hospital staff in Maseru, Lesotho. Two hundred and forty-six PLHIV with a median survival time of 7 years since the first diagnosis of HIV (IQR: 3-9 years) and 25 hospital staff were included in the study. Forty-two percent (42%) of the patients had at least one diagnosed NCD, and 33% of these were diagnosed outside of the antiretroviral treatment (ART) centers. Overall, the QoC of NCDs was inadequate. Only 32% of patients with NCDs had records on NCD treatment outcomes in the ART centers. Shortage and disrepair of equipment, along with inadequate staff were the major barriers affecting the organizational structure for the care of NCDs. Inadequate screening for NCDs, disintegrated checkup schedules for NCDs/HIV co-morbid conditions, and inadequate patient education were the major issues affecting the treatment processes. The longer life spans of PLHIV in this study emphasises the need to scale up the diagnosis of NCDs while improving their QoC in PLHIV in Lesotho. The issues underpinning the QoC of NCDs should thus be prioritised in the interventions aimed at improving QoC of NCDs in PLHIV.

4.5 Water insecurity in a syndemic context: understanding the psycho-emotional stress of water insecurity in Lesotho, Africa

Journal: Social Science & Medicine
Main Author: Workman CL
Other Contributing Authors: Ureksov H

Abstract: Syndemics occur when populations experience synergistic and multiplicative effects of co-occurring epidemics. Proponents of syndemic theory highlight the importance of understanding the social context in which diseases are spread and cogently argue that there are biocultural effects of external stresses such as food insecurity and water insecurity. Thus, a holistic understanding of disease or social vulnerability must incorporate an examination of the emotional and social effects of these phenomena. This paper is a response to the call for a renewed focus on measuring the psychoemotional and psychosocial effects of food insecurity and water insecurity. Using a mixed-method approach of qualitative interviews and quantitative assessment, including a household demographic, illness, and water insecurity scale, the Household Food Insecurity Access Scale, and the Hopkins Symptoms Checklist-25, this research explored the psycho-emotional effects of water insecurity, food insecurity, and household illness on women and men residing in three low-land districts in Lesotho (n=75). Conducted between February and November of 2011, this exploratory study first examined the complicated interaction of water insecurity, food insecurity, and illness to understand and quantify the relationship between these co-occurring stresses in the context of HIV/AIDS. Second, it sought to separate the role of water insecurity in predicting psycho-emotional stress from other factors such as food insecurity and household illness. When asked directly about water, qualitative research revealed water availability, access, usage amount, and perceived water cleanliness as important dimensions of water insecurity, creating stress in respondent's daily lives. Qualitative and quantitative data show that water insecurity, food insecurity and changing household demographics, likely resulting from the HIV/AIDS epidemic, are all associated with increased anxiety and depression, and support the conclusion that water insecurity is a critical syndemic dimension in Lesotho. Together, these data provide compelling evidence of the psycho-emotional burden of water insecurity.

4.6 Depressive symptoms and hazardous/harmful alcohol use are prevalence and correlate with stigma among TB-HIV patients in Lesotho

Journal: International Journal of Tuberculosis and Lung Disease
Main Author: Hayes-Larson E
Other Contributing Authors: Hirsch-Moverman Y, Frederix K, Pitt B, Maama-Maime L, Howard AA
Abstract: Limited data exist on the prevalence and correlates, including stigma of mental health conditions, including depressive symptoms and alcohol use, among patients co-infected with tuberculosis (TB) and the human immunodeficiency virus (HIV) in sub-Saharan Africa, despite their negative impact on health outcomes. To assess the prevalence and correlates of depressive symptoms and hazardous/harmful alcohol use among TB-HIV patients in the Start TB patients on ART and Retain on Treatment (START) study. START, a mixed-methods cluster-randomized trial, evaluated a combination intervention package vs. standard of care (SOC) to improve treatment outcomes in TB-HIV co-infected patients in Lesotho. Moderate/severe depressive symptoms and hazardous/harmful alcohol use were measured using baseline questionnaire data collected from April 2013 to March 2015. Demographic, psychological, and TB- and HIV-related knowledge and attitudes, including stigma, were assessed for association with both conditions using generalized linear mixed models. Among 371 participants, 29.8% reported moderate/severe depressive symptoms, and 24.7% reported hazardous/harmful alcohol use; 7% reported both. Depressive symptoms were significantly associated with less education, more difficulty understanding written medical information, non-disclosure of TB, greater TB stigma, and the SOC study arm. Hazardous/harmful alcohol use was significantly associated with male sex, as well as greater TB and external HIV stigma. Prevalence of depressive symptoms and hazardous/harmful alcohol use were high, suggesting a need for routing screening for, and treatment of, mental health disorders in TB-HIV patients.

5. Publications on HIV/AIDS Policy

5.1 Using geospatial mapping to design HIV elimination strategies for sub-Saharan Africa

Journal: Science Translation Medicine
Main Author: Coburn BJ
Other Contributing Authors: Okano JT, Blower S

Abstract: Treatment as prevention (TasP) has been proposed by the World Health Organization and the Joint United National Programme on HIV/AIDS (UNAIDS) as a global strategy for eliminating HIV. The rationale is that treating individuals reduces their infectivity. We present a geostatistical framework for designing TasP-based HIV elimination strategies in sub-Saharan Africa. We focused on Lesotho, where ~25% of the population is infected. We constructed a density of infection map by gridding high resolution demographic data and spatially smoothing georeferenced HIV testing data. The map revealed the countrywide geographic dispersion pattern of HIV-infected individuals. We found that ~20% of the HIV-infected population lives in urban areas and that almost all rural communities have at least one HIV-infected individual. We used the map to design an optimal elimination strategy and identified which communities should use TasP. This strategy minimized the area that needed to be covered to find and treat HIV-infected individuals. We should that UNAIDS's elimination strategy would not be feasible in Lesotho because it would require deploying treatment in areas where there are ~4 infected individuals/km^2. Our results show that the spatial dispersion of Lesotho's population hinders, and may even prevent, the elimination of HIV.

5.2 Harmonization of community health worker programs for HIV: A four-country qualitative study in Southern Africa

Journal: PLOS
Main Author: De Neve JW
Other Contributing Authors: Garrison-Desany H, Andrews KG, Sharara N, Boudreaux C, Gill R, Geldsetzer P, Vaikath M, Bärnighausen T, Bossert TJ
Publication Date: August 8, 2017

Abstract: Community health worker (CHW) programs are believed to be poorly coordinated, poorly integrated into national health systems, and lacking long-term support. Duplication of services, fragmentation, and resource limitations may have impeded the potential impact of CHWs for achieving HIV goals. This study assesses mediators of a more harmonized approach to implementing largescale CHW programs for HIV in the context of complex health systems and multiple donors. We undertook four country case studies in Lesotho, Mozambique, South Africa, and Swaziland between August 2015 and May 2016. We conducted 60 semistructured interviews with donors, government officials, and expert observers involved in CHW programs delivering HIV services. Interviews were triangulated with published literature, country reports, national health plans, and policies. Data were analyzed based on 3 priority areas of harmonization (coordination, integration, and sustainability) and 5 components of a conceptual framework (the health issue, intervention, stakeholders, health system, and context) to assess facilitators and barriers to harmonization of CHW programs. CHWs supporting HIV programs were found to be highly fragmented and poorly integrated into national health systems. Stakeholders generally supported increasing harmonization, although they recognized several challenges and disadvantages to harmonization. Key facilitators to harmonization included (i) a large existing national CHW program and recognition of nongovernmental CHW programs, (ii) use of common incentives and training processes for CHWs, (iii) existence of an organizational structure dedicated to community health initiatives, and (iv) involvement of community leaders in decision-making. Key barriers included a wide range of stakeholders and lack of ownership and accountability of nongovernmental CHW programs. Limitations of our study include subjectively selected case studies, our focus on decision-makers, and limited generalizability beyond the countries analyzed. CHW programs for HIV in Southern Africa are fragmented, poorly integrated, and lack long-term support. We provide 5 policy recommendations to harmonize CHW programs in order to strengthen and sustain the role of CHWs in HIV service delivery.

5.3 A Critical Take on the World Health Organization's new "test and start" strategy: making a case for resource-constrained countries

Journal: *HIV & AIDS Review*
Main Author: Ilongo FN
Other Contributing Authors: Rakotsoane F

Abstract: This article aims to critically explore limitations, which resource-constrained countries like Lesotho face in the sustainable implementation of the WHO 'test and treat' comprehensive strategy for eliminating HIV and AIDS. The methodology is critical thinking and qualitative theoretical analyses, articulated around the UNAIDS 90-90-90 strategy. The researchers argue that the context of Lesotho involves serious human, technical, and infrastructural challenges, which may hamper the efficient and effective implementation of the 'test and treat' strategy. In line with the preceding, they suggest that the country is among the poorest in the world, and faces severe shortage of conventional health workers and professional counsellors. The paper's recommendation as a way forward: widespread and timely access to treatment, extensive countrywide testing, training and deployment of social work and counselling professionals, mass education and sensitization, development and sustenance of linkages to care and patient follow-up on referrals, putting in place retention in care mechanisms, optimization of every component of 'test and treat', and trying out alternative treatment models like Anti-Retroviral Treatment Access to Services (ARTAS).

5.4 Overcoming Health system challenges for women and children living with HIV through the global plan

Journal: HIV & AIDS Review
Main Author: Ilongo FN
Other Contributing Authors: Rakotsoane F

Abstract: This article aims to critically explore limitations, which resource-constrained countries like Lesotho face in the sustainable implementation of the WHO 'test and treat' comprehensive strategy for eliminating HIV and AIDS. The methodology is critical thinking and qualitative theoretical analyses, articulated around the UNAIDS 90-90-90 strategy. The researchers argue that the context of Lesotho involves serious human, technical, and infrastructural challenges, which may hamper the efficient and effective implementation of the 'test and treat' strategy. In line with the preceding, they suggest that the country is among the poorest in the world, and faces severe shortage of conventional health workers and professional counsellors. The paper's recommendation as a way forward: widespread and timely access to treatment, extensive countrywide testing, training and deployment of social work and counselling professionals, mass education and sensitization, development and sustenance of linkages to care and patient follow-up on referrals, putting in place retention in care mechanisms, optimization of every component of 'test and treat', and trying out alternative treatment models like the Anti-Retroviral Treatment and Access to Services (ARTAS).

6. Publications on HIV/AIDS Financing

6.1 Policy makers, the international community and the population in the prevention and treatment of diseases: case study on HIV/AIDS

Journal: Health Economics Review
Main Author: Husken K
Other Contributing Authors: Ncube M

Abstract: A four-period game is developed between a policy maker, the international community, and the population. This research supplements, through implementing strategic interaction, earlier research analyzing "one player at a time". The first two players distribute funds between preventing and treating diseases. The population reacts by degree of risky behavior which may cause no disease, disease contraction, recovery, sickness/death. More funds to prevention implies less disease contraction but higher death rate given disease contraction. The cost effectiveness of treatment relative to prevention, country specific conditions, and how the international community converts funds compared with the policy maker in a country, are illustrated. We determine which factors impact funding, e.g. large probabilities of disease contraction, and death given contraction, and if the recovery utility and utility of remaining sick or dying are far below the no disease utility. We also delineate how the policy maker and international community may free ride on each other's contributions. The model is tested against empirical data for 43 African countries. The results show consistency between the theoretical model and empirical estimates. The paper argues for the need to create commitment mechanisms to ensure that free riding by both countries and the international community is avoided.

6.2 Evolution and patterns of global health financing 1995 - 2014: development assistance for health and government, prepaid private, and out-of-pocket health spending in 184 countries

Journal: The Lancet

Main Author: Global Burden of Disease Health Financing Collaborator Network

Abstract: An adequate amount of prepaid resources for health is important to ensure access to health services and for the pursuit of universal health coverage. Previous studies on global health financing have described the relationship between economic development and health financing. In this study, we further explore global health financing trends and examine how the sources of funds used, types of services purchased, and development assistance for health disbursed change with economic development. We also identify countries that deviate from the trends. We estimated national health spending by type of care and by source, including development assistance for health, based on a diverse set of data including programme reports, budget data, national estimates, and 964 National Health Accounts. These data represent health spending for 184 countries from 1995 through 2014. We converted these data into a common inflation-adjusted and purchasing power-adjusted currency, and used non-linear regression methods to model the relationship between health financing, time, and economic development. Between 1995 and 2014, economic development was positively associated with total health spending and a shift away from a reliance on development assistance and out-of-pocket (OOP) towards government spending. The largest absolute increase in spending was in high-income countries, which increased to purchasing power-adjusted $5221 per capita based on an annual growth rate of 3·0%. The largest health spending growth rates were in upper-middle-income (5·9) and lower-middle-income groups (5·0), which both increased spending at more than 5% per year, and spent $914 and $267 per capita in 2014, respectively. Spending in low-income countries grew nearly as fast, at 4·6%, and health spending increased from $51 to $120 per capita. In 2014, 59·2% of all health spending was financed by the government, although in low-income and lower-middle-income countries, 29·1% and 58·0% of spending was OOP spending and 35·7% and 3·0% of spending was development assistance. Recent growth in development assistance for health has been tepid; between 2010 and 2016, it grew annually at 1·8%, and reached US$37·6 billion in 2016. Nonetheless, there is a great deal of variation revolving around these averages. 29 countries spend at least 50% more than expected per capita, based on their level of economic development alone, whereas 11 countries spend less than 50% their expected amount. Health spending remains disparate, with low-income and lower-middle-income countries increasing spending in absolute terms the least, and relying heavily on OOP spending and development assistance. Moreover, tremendous variation shows that neither time nor economic development guarantee adequate prepaid health resources, which are vital for the pursuit of universal health coverage.

6.3 11 years of tracking aid to reproductive, maternal, newborn and child health: estimates and analysis for 2003 - 2013 from the countdown to 2015

Journal: The Lancet Global Health
Main Author: Grollman C
Other Contributing Authors: Arregoces L, Martínez-Álvariz M, Pitt C, Mills A, Borghi J
Abstract: Tracking aid flows helps to hold donors accountable and to compare the allocation of resources in relation to health need. With the use of data reported by donors in 2015, we provided estimates of official development assistance and grants from the Bill & Melinda Gates Foundation (collectively termed ODA+) to reproductive, maternal, newborn, and child health for 2013 and complete trends in reproductive, maternal, newborn, and child health support for the period 2003–13. We coded and analysed financial disbursements to reproductive, maternal, newborn, and child health to all recipient countries from all donors reporting to the creditor reporting system database for the year 2013. We also revisited disbursement records for the years 2003–08 and coded disbursements relating to reproductive and sexual health activities resulting in the Countdown dataset for 2003–13. We matched this dataset to the 2015 creditor reporting system dataset and coded any unmatched creditor reporting system records. We analysed trends in ODA+ to reproductive, maternal, newborn, and child health for the period 2003–13, trends in donor contributions, disbursements to recipient countries, and targeting to need. Total ODA+ to reproductive, maternal, newborn, and child health reached nearly US$14 billion in 2013, of which 48% supported child health ($6·8 billion), 34% supported reproductive and sexual health ($4·7 billion), and 18% maternal and newborn health ($2·5 billion). ODA+ to reproductive, maternal, newborn, and child health increased by 225% in real terms over the period 2003–13. Child health received the most substantial increase in funding since 2003 (286%), followed by reproductive and sexual health (194%), and maternal and newborn health (164%). In 2013, bilateral donors disbursed 59% of all ODA+ to reproductive, maternal, newborn, and child health, followed by global health initiatives (23%), and multilateral agencies (13%). Targeting of ODA+ to reproductive, maternal, newborn, and child health to countries with the greatest health need seems to have improved over time. The increase in reproductive, maternal, newborn, and child health funding over the period 2003–13 is encouraging. Further increases in funding will be needed to accelerate maternal mortality reduction while keeping a high level of investment in sexual and reproductive health and in child health.

7. Publications on HIV/AIDS Stigma & Discrimination

7.1 Multilevel determinants of teenage childbearing in sub-Saharan Africa in the context of HIV/AIDS

Journal: Health & Place
Main Author: Magadi MA
Abstract: This paper examined national variations and multilevel determinants of teenage childbearing in sub-Saharan Africa (SSA) in the context of HIV/AIDS using data from recent Demographic and Health Surveys conducted in 29 countries of SSA. Results showed significant community and national variations in teenage childbearing, partly explained by socio-economic and HIV/AIDS context. At community level, lower HIV/AIDS stigma, higher wealth and female education were associated with lower teenage childbearing. However, national socio-economic status had an intricate relationship with teenage childbearing. Higher national GDP per-capita was generally associated with higher teenage childbearing, and this relationship was stronger in lower HIV prevalence countries.