

Berger's HIV Stigma Scale), recent trauma (abridged USAID/HPI MSM Violence Screening Tool), and childhood trauma (abridged CECA). Depression, alcohol use, and other substance use were rated using validated categories of increasing severity (e.g., WHO risk zones I-IV for AUDIT) and summary scores were created for sexual and HIV stigma. Recent and childhood trauma were combined into a binary indicator of any past trauma or abuse. Spearman correlation and Wilcoxon rank sum tests were used to identify associations.

Findings: Forty-two percent of participants had moderate to severe depressive symptoms, 45% engaged in hazardous or harmful drinking behaviour, and 60% had moderate to severe abuse of other substances. Median sexual and HIV stigma scores were 11 (IQR 6-17, range 0-33) and 25 (IQR 23-29, range 11-44, seropositive exclusive), respectively. There was a positive correlation between depression category and alcohol use category ($\rho=0.33$, $p=0.0004$), and a weaker positive correlation between depression category and other substance use category ($\rho=0.22$, $p=0.0165$). Alcohol use category and substance use category had a strong positive correlation ($\rho=0.39$, $p < 0.0001$). Sexual stigma was positively correlated with depression ($\rho=0.49$, $p < 0.0001$), alcohol use ($\rho=0.39$, $p < 0.0001$), and other substance use ($\rho=0.29$, $p=0.0023$). HIV status and HIV-related stigma (among seropositives) were not correlated with any of the measures. Depression category was higher among men with a history of trauma or abuse (median 2.5 vs 1, $p < 0.0001$). Similar associations were found between trauma and alcohol use (median 1.5 vs 1, $p=0.0501$), other substance use (median 3 vs 2, $p=0.0041$), and sexual stigma (median 12.5 vs 5.5, $p < 0.0001$). Trauma was not associated with HIV status or HIV-related stigma.

Interpretation: This population of Kenyan MSM reported moderate-to-high levels of depression and of alcohol and substance abuse, and low-to-moderate levels of sexual stigma. These mental health conditions and social factors are highly inter-correlated and are exacerbated by experience of trauma or abuse. Comprehensive mental health services are needed in this population to address these issues.

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The health cost of misdiagnosis among obstetric providers in the Philippines

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Background: There is interest in examining the pervasiveness of misdiagnosis in clinical care around the world, which is stimulating a shift in how quality deficiencies are conceptualized. While diagnostic process can potentially be studied prospectively, real clinical settings makes this a substantial practical challenge, starting with resource constraints, case mix variation, clinical uncertainty, and challenges in measuring clinician cognitive thought processes. We used a case simulation measure, the Clinical Performance and Value (CPV®) vignettes, to quantify the quality of care among obstetric providers (midwives and physicians) in an urban setting of the Philippines (Quezon City). Obstetric complications remain a major source of mortality and morbidity in the Philippines. We asked three questions: 1. What is the prevalence of misdiagnosis? 2. What are the predictors of misdiagnosis, and 3. What are the clinical outcomes associated with misdiagnosis?

Methods: We had provider rosters from 77 birthing facilities in Quezon City. A random sample of providers from the facilities was

obtained. A total of 103 providers completed each of 3 maternal vignettes (CPV® vignettes) between Jan-April 2014. The three variants of maternal case vignettes included cephalopelvic disproportion (CPD), post-partum hemorrhage (PPH), and pre-eclampsia (Pre-ec). In order to link provider clinical decision making data to patients, we examined the medical charts of providers who took the vignettes. Of the 70 patients that were linked to providers, 37 were classified as complications (defined by the presence of at least one obstetric complication as reported in the medical chart). Complications include cases with any of the following: fever, abnormal vaginal discharge, excessive bleeding, urinary incontinence, blood transfusion, perineal tears, high BP, jaundice, pallor, and prolonged labor. We examined whether providers who misdiagnosed on the vignette were more likely to have had a patient complication under their care.

Findings: The prevalence of misdiagnosis in this study group was notably high: 25.2% CPD, 33% PPH, 31% Pre-ec. Older providers had a slightly lower rate of misdiagnosis. Providers who misdiagnosed on the vignettes were more likely ($p=0.041$) to have patients with a complication (any any of the following: fever, abnormal vaginal discharge, excessive bleeding, urinary incontinence, blood transfusion, perineal tears, high BP, jaundice, pallor, and prolonged labor) than providers who did not misdiagnose.

Interpretation: Diagnosis is arguably the most important early task a clinician performs as he or she determines the subsequent course of evaluation and treatment. The implications for the patient are significant as they may translate into significant morbidity and possibly mortality. Investments in improving provider decision-making skills may be necessary.

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Abstract #: 01NCD035

Strategies for prevention and control of rheumatic fever and rheumatic heart disease in Sub-Saharan Africa: a preliminary cost-effectiveness analysis

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Background: While mortality from acute rheumatic fever (ARF) and its sequel rheumatic heart disease (RHD) appear to be declining at the global level, these conditions remain the most common cause of heart disease in children and adolescents in low- and middle-income countries. Several interventions across the natural history of ARF/RHD are effective, including primary and secondary prevention as well as heart valve surgery. We developed a cost-effectiveness analysis model to assess the most important tradeoffs among various public health interventions that should be considered in scaling up programs in highly endemic, resource-constrained settings such as sub-Saharan Africa.

Methods: We developed a decision tree to analyze five different combinations of primary and secondary prevention with or without scale-up of surgical services, and we compared these to doing nothing. We modeled the natural history of ARF and RHD as a time-dependent Markov process with health states reflecting first and recurrent episodes of ARF, ARF remission, RHD (including severe heart failure and stroke as sequelae), and mortality from ARF/RHD. We used transition probabilities and intervention effectiveness data from previously published studies. To calibrate our model, we used South African life tables and published medical and surgical costs from a population-based intervention in Cuba. We took the healthcare system perspective in our costs, and we measured outcomes as disability-adjusted life-years (DALYs), incorporating disability weights from the Global Burden of