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Background: Worldwide, over 3.6 million neonatal infants die, often due to maternal health complications. Preconception care is defined as biomedical, behavioral and social health interventions before conception occurs. Recent research has established linkages of preconception interventions with improved maternal and child outcomes. A Reproductive Life Plan is shown to be an effective communication tool with patients regarding overall reproductive goals. Maternal and neonatal mortality rates in the Dominican Republic (DR) remain high. There are no studies presently published examining the association between preconception risk factors and attitudes regarding reproductive planning in the DR.

Methods: In this cross-sectional, descriptive study, a reproductive health survey was administered to women age 18 – 49, excluding women with hysterectomy or bilateral tubal ligation, in 4 outpatient public clinics in Santiago, DR. Survey questions included age, education level, self reporting of preconception risk factors, and calculation of BMI. Women were asked if they had thought about a reproductive plan: planning for or preventing pregnancy. Greater thought of reproductive planning was defined as women who answered somewhat, moderately and a lot on a 5-point likert scale. Logistic regression was used to assess significant associations between variables.

Findings: A total of 381 women of reproductive age participated, with a median age of 24 (IQR, 20–29) years. In a univariable analysis, hypertensive women (OR, 0.36; 95% CI, 0.17–0.78; $p=0.009$) and women who had a short-interval pregnancy (OR, 0.51; 95% CI, 0.27–0.94; $p=0.03$) had lower odds of thinking about reproductive planning. Women aged >25 years (OR, 1.84; 95% CI, 1.29–2.64; $p=0.001$) and women with at least a high-school education (OR, 2.01; 95% CI, 1.21–3.36; $p=0.007$) had greater odds of thinking about reproductive planning.

Interpretation: Women with preconception risks such as hypertension and short interval pregnancies are at lower odd of thinking about reproductive planning and may be at higher risks for maternal and fetal complications during pregnancies. Further assessment of preconception risks may provide a framework for targeted counseling interventions in women of reproductive age and possibly improve maternal and child health outcomes.

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Abstract #: 1.019_MDG

Sexual risk behavior and HIV testing and status among male and transgender women sex workers and their clients in Lima, Peru

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Introduction: Male and transwomen sex workers (MTSWs) are among the most at-risk populations for HIV, but there is little research globally with these groups, and even less with their clients. These populations are crucial since they may contribute to transmission of HIV among key and general populations.

Methods: Following ethnographic mapping of sex work venues, we revisited randomly selected venues to survey MTSWs and their male clients. We surveyed 100 MSWs, 181 TSWs and 95 clients from 24 venues. We used smartphones to ask participants about their socio-demographics, recent sexual practices (last 3 months), and HIV testing history and status. We present descriptive analyses where SW figures are weighted for the proportion of SWs surveyed at each venue.

Findings: Clients are about 10 years older than MTSWs. MSWs are slightly more educated than their clients, while TSW clients are much more educated than TSWs. While 72–84% of MTSWs and MSW clients have ever been tested for HIV, only 50% of TSW clients have been tested. Self-reported HIV positivity is highest among MSW clients (18%) and TSWs (19%), compared to MSWs (3%) and TSW clients (4%). All participants had at least one recent male or transwoman partner both overall and within a transactional sex context. Fewer (17–42%) reported recent non-transactional sex with a man or transwoman. Clients of MSWs reported more receptive anal intercourse during transactional (75%) versus non-transactional sex (32%) and a significant minority reported no anal intercourse with both types of partners. TSWs have more insertive anal intercourse inside (45%) versus outside (24%) of transactions. TSWs are more likely than MSWs to have condomless anal sex with transactional partners, both insertive (36% vs 9%) and receptive (31% vs 3%). At least one recent female partner was reported by most MSWs (62%) and TSW clients (76%), but few TSWs (2%) or MSW clients (20%).

Interpretation: This is one of the first studies to collect data directly from clients of sex workers. There are noteworthy differences between MTSWs and their male clients that can affect the health, including HIV and other sexually transmitted infections, of these groups and their sex partners.

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Abstract #: 1.020_MDG

Global burden of disease: diabetes burden and its relation to socioeconomic, environmental, behavioral, and health risk factors in low- to middle-income Southeast Asia

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Background: Diabetes is a global health concern affecting 382 million people. Around 80% live in developing economies, stressing

individuals, communities, and health systems. This study examined diabetes burden in 11 low- to middle-income nations in Southeast Asia, exploring differences in distribution of disability-adjusted life years (DALYs) across countries, economies, environment, behavioral, and health risk factors, standardized for age for both sexes.

Methods: Ecological and descriptive study methods were applied to 11 countries with data from the Global Burden of Disease Study (Institute for Health Metrics Evaluation), World Bank, and World Health Organization. DALYs and risk factors were examined for associations and trends. Outcome of interest was diabetes DALYs for both sexes, age-standardized. Spearman correlation was used to determine associations of outcome with other covariates including gross domestic product, gross national income, urbanization, government health expenditure, physical inactivity, dietary risks, and high BMI.

Findings: Indonesia had the highest diabetes burden (1,355 DALYs per 100,000), while Maldives was lowest (350 DALYs per 100,000). Diabetes attributed to physical inactivity was highest in Indonesia (401 DALYs per 100,000), lowest in Maldives (98 DALYs per 100,000); dietary risk attribution was highest in Malaysia (319 DALYs per 100,000), lowest in Cambodia (47 DALYs per 100,000); and high BMI attribution was highest in the Philippines (476 DALYs per 100,000), lowest in Vietnam (87 DALYs per 100,000). Physical inactivity was strongly associated with diabetes burden ($r = 0.956$, $p < 0.01$), and moderately with dietary risks ($r = 0.664$, $p < 0.05$) and high BMI ($r = 0.645$, $p < 0.05$). Income, urbanization and health expenditure were not associated with diabetes, but urbanization correlated strongly with diabetes-associated high BMI ($r = 0.861$, $p < 0.01$) and moderately with GDP ($r = 0.663$, $p < 0.05$).

Interpretation: Diabetes burden improves with reduced physical inactivity, dietary risks, and BMI, suggesting renewed emphasis on related policy and interventions. Targeting reduction in physical inactivity as a priority program may have the most cost to benefit impact among these countries. Diabetes need not be a consequence of rapidly changing lifestyles in Southeast Asia.

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Abstract #: 1.021_MDG

Will the sustainable development goals deliver for nutrition? an analysis of the potential influence of the goals on nutrition outcomes

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Background: In September 2015 countries around the world adopted 17 Sustainable Development Goals (SDGs) that aim to “end poverty, protect the planet, and ensure prosperity for all” by 2030. Although the goals are comprehensive there is concern by the nutrition community that they will not adequately address nutrition with only one goal (SDG2) dedicated to “end hunger, achieve food security and improved nutrition and promote sustainable

agriculture”. Thus, the aim of this study was to examine the ways in which achieving the other multiple targets of the SDGs, along with the direct pathways of SDG2, could improve nutrition outcomes.

Methods: The UNICEF conceptual framework of the determinants of child undernutrition was used to examine how the SDGs relate to nutrition, through direct and indirect pathways. The SDGs were categorized into the main components of the UNICEF framework: basic, underlying or immediate causes of child undernutrition. Key indicators with verifiable data were identified across the three causal levels. We then used existing data from multiple sources (e.g., MICS, LSMS, FAO Stat, etc.) to examine baseline levels of these SDG-related indicators across 196 countries, prior to the goals being implemented.

Findings: This analysis provides a framework of existing data that can link the UNICEF causal pathway to relevant SDGs. Several of the SDGs address the basic causes of child undernutrition; however, only two address the underlying and immediate causes. Baseline data showed that (1) not all data is systematically collected across these core indicators (2) the baseline status of both direct and indirect indicators in countries vary and (3) some countries will have to make significant investments to “catch up” to other countries if the SDGs for nutrition will be achieved by 2030. Further analysis is underway to disaggregate data based on wealth and the urban rural divide.

Interpretation: It is likely that working towards achieving the SDGs will deliver for nutrition both through direct and indirect pathways. The degree and ways in which the SDGs could lead to improvements in nutrition will likely be context specific, with some countries seeing more significant improvements through indirect rather than direct pathways.

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Barrier analysis to improve utilization of a novel cervical cancer screening program in rural Senegal

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Background: Senegal ranks 15th in the world in cervical cancer incidence, the number one cancer killer among women there. In Kedougou, the south-easternmost region of Senegal, a partnership between the regional health system, Peace Corps Senegal, and the University of Illinois at Chicago has built human capacity and implemented a novel cervical cancer prevention service for women in rural communities. The partnership has implemented a community-engaged continuous quality improvement process with the goal of increasing service utilization and improving the responsiveness of health services.

Methods: A barrier analysis was conducted among service eligible clients (women ages 30 to 49) in six representative rural communities (two from each district) in the Kedougou Region. Forty-five interviews of “doers” (those who have sought cervical cancer