

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

screening services within the last two years) and 45 “non-doers” were conducted by Peace Corps Volunteers. The 12 determinants of behavior, including self-efficacy, positive and negative consequences, and social norms, were assessed using quantitative and qualitative surveys.

Findings: After preliminary analysis, the following determinants were found to be statistically significant between “doers” and “non-doers”: 1) Self-Efficacy: “doers” are more likely to say that being notified about a screening event makes it easier to seek screening for cervical cancer (p-value = 0.011, OR 5.47); 2) Perceived Susceptibility: “non-doers” are more likely to say that they do not feel at risk of developing cervical cancer (p-value = 0.001, OR 0.15); 3) Perceived Severity: “doers” are more likely to say that developing cervical cancer is serious (p-value = 0.021, OR 9.55).

Interpretation: The results enable the partnership to implement informed interventions that aim to increase the utilization of health services in low resources areas of rural Senegal. This study illustrates the instrumental role of Peace Corps Volunteers in assessing the community-health service interface while facilitating university-engaged implementation science. The significant findings point to a lack of understanding about cervical cancer and cervical cancer screening. The next steps are to triangulate the data with qualitative interviews to better understand the nuances of the significant determinants. With this information, local communities and health service partners will identify strategies to address these barriers.

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Abstract #: 1.023_MDG

Measuring skills retention and impact of helping babies breathe trainings in Ghana

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Background: The Helping Babies Breathe (HBB) program teaches basic newborn resuscitation techniques to midwives in low resource settings. Studies in Tanzania and India have demonstrated that the program is associated with a decrease in stillbirth or newborn mortality rate (NMR) in urban hospitals, but fewer studies have evaluated the impact in rural settings where NMR is higher. Our study aims to evaluate the impact of the first in a series of HBB trainings in Ghana by measuring skills retention of the midwives trained and the number of newborns that benefit from the program.

Methods: Twenty-one midwives from rural health clinics underwent a 2-day training course in Sunyani, Ghana. At the end of training, their skills were evaluated by a written exam and an objective structured clinical examination (OSCE). Three months later, 16 of the midwives were re-tested by OSCE and instructed how to record the level of intervention required by each newborn they delivered.

Findings: The average OSCE score of the 16 midwives tested decreased from 97% to 86% after 3 months; 14 of the 16 received passing scores. In the first 3 months of data collection, midwives recorded information from 325 deliveries. 62.2% of the newborns required no resuscitation, 25.2% required drying and stimulation, 9.2% required suctioning, 2.2% required bag-mask ventilation, and 1.2% did not survive.

Interpretation: Three months after HBB training, midwives had retained the most important skills they learned, but the decrease in OSCE scores highlights the need for ongoing refresher courses. Since midwives did not have bag-mask ventilation or suction devices before training, the program likely prevented at least seven neonatal deaths in the first three months after follow up. Data collection is ongoing and will continue to expand to other regions where HBB trainings have taken place.

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Abstract #: 1.024_MDG

Intrapersonal, interpersonal and environmental risk influences for cigarette smoking among the youth of southern Nigeria

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Background: We investigated the risk influences for smoking behaviour amongst the youth in Southern Nigeria guided by the Theory of Triadic Influence with specific focus on cultural/environmental, interpersonal and intrapersonal factors serving to increase smoking initiation and perpetuation.

Method: We used an exploratory mixed methods research design. Purposive and multi-staged convenience sampling techniques were employed in recruiting participants for the qualitative and survey phases respectively. Qualitative face-to-face interviews were conducted with 27 persons (18 young male smokers aged 18–24 years, 4 political analysts and 5 community leaders). Survey participants were 550 youth aged 18–24 years. Interpretative phenomenological analysis (IPA) with the aid of the software Nvivo 9 and the software Statistical Package for the Social Sciences (SPSS) version 19 were used in analysing the qualitative and quantitative data respectively.

Findings: At the cultural environment level, traditional practices exist in some parts of Southern Nigeria demanding the provision of cigarettes for consumption by the youth. Current smokers were three times more likely to have been sent on errands to buy or sell cigarettes as minors. With the absence of an operational national tobacco control law presently, cigarette is cheap, easily accessible and tobacco manufacturers and marketers still promote their business in many ways which target the youth. At the interpersonal level, youth were influenced majorly by their peers to initiate smoking but indirectly by parents, older sibling and role models who smoke. At the intrapersonal level, the need to ward off depression, cope with social stress, low self-efficacy and wanting to live up to the expectations of friends drive the habit. Youth’s knowledge about the negative health effect of smoking did not translate to a desire to quit smoking.

Interpretation: The Nigerian government needs to urgently address the tobacco problem through policy implementation.