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23. Health Policy and Planning, Vol 36, Issue Supplement_1, Dec 2021, Pages i1–i3
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29. Health Policy and Planning, 2022, Vol 37 (1): 152 - 167
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30. Lancet 2021;398(10309):1381 Editorial
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35. Am J Trop Med Hyg. 2021 Dec 20;tpmd210731. Online ahead of print.
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Abortion quality of care from the client perspective: a qualitative study in India and Kenya

44. Health Policy and Planning, 2021, Vol 36 (9): 1441 – 1450
'I was trying to get there, but I couldn't': social norms, vulnerability and lived experiences of home delivery in Mashonaland Central Province, Zimbabwe

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Combatting the imbalance of sex ratio at birth: medium-term impact of India's National Programme of Beti Bachao Beti Padhao in the Haryana State of India

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WHO in its present form is not fit for purpose—an essay by Anthony Costello

49. Lancet 2021;389(10317):2125 Editorial
Preventing violence against women: beyond 16 days

50. Lancet 2021;399(10323):411 Editorial
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International Health Alerts Februari 2022 Abstracts

Child Health

1. BMJ Global Health 2022;7:e007080. Original research

The cost of illness for childhood clinical pneumonia and invasive pneumococcal disease in Nigeria
Adamu AL, Karia B, Bello MM, et al

Abstract
Background Pneumococcal disease contributes significantly to childhood morbidity and mortality and treatment is costly. Nigeria recently introduced the pneumococcal conjugate vaccine (PCV) to prevent pneumococcal disease. The aim of this study is to estimate health provider and household costs for the treatment of pneumococcal disease in children aged <5 years (U5s), and to assess the impact of these costs on household income.
Methods We recruited U5s with clinical pneumonia, pneumococcal meningitis or pneumococcal septicaemia from a tertiary level hospital and a secondary level hospital in Kano, Nigeria. We obtained resource utilisation data from medical records to estimate costs of treatment to provider, and household expenses and income loss data from caregiver interviews to estimate costs of treatment to households. We defined catastrophic health expenditure (CHE) as household costs exceeding 25% of monthly household income and estimated the proportion of households that experienced it. We compared CHE across tertiles of household income (from the poorest to least poor).
Results Of 480 participants recruited, 244 had outpatient pneumonia, and 236 were hospitalised with pneumonia (117), septicaemia (66) and meningitis (53). Median (IQR) provider costs were US$17 (US$14–22) for outpatients and US$272 (US$271–360) for inpatients. Median household cost was US$51 (US$40–69). Overall, 33% of households experienced CHE, while 53% and 4% of the poorest and least poor households, experienced CHE, respectively. The odds of CHE increased with admission at the secondary hospital, a diagnosis of meningitis or septicaemia, higher provider costs and caregiver having a non-salaried job.
Conclusion Provider costs are substantial, and households incur treatment expenses that considerably impact on their income and this is particularly so for the poorest households. Sustaining the PCV programme and ensuring high and equitable coverage to lower disease burden will reduce the economic burden of pneumococcal disease to the healthcare provider and households.

Communicable Diseases

2. BMJ Global Health 2022;7:e007456. Original research

Prescribing practices for presumptive TB among private general practitioners in South Africa: a cross-sectional, standardised patient study

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Abstract

Introduction Medicine prescribing practices are integral to quality of care for leading infectious diseases such as tuberculosis (TB). We describe prescribing practices in South Africa's private health sector, where an estimated third of people with TB symptoms first seek care.

Methods Sixteen standardised patients (SPs) presented one of three cases during unannounced visits to private general practitioners (GPs) in Durban and Cape Town: TB symptoms, HIV-positive; TB symptoms, a positive molecular test for TB, HIV-negative; and TB symptoms, history of incomplete TB treatment, HIV-positive. Prescribing practices were recorded in standardised exit interviews and analysed based on their potential to contribute to negative outcomes, including increased healthcare expenditures, antibiotic overuse or misuse, and TB diagnostic delay. Factors associated with antibiotic use were assessed using Poisson regression with a robust variance estimator.

Results Between August 2018 and July 2019, 511 SP visits were completed with 212 GPs. In 88.5% (95% CI 85.2% to 91.1%) of visits, at least one medicine (median 3) was dispensed or prescribed and most (93%) were directly dispensed. Antibiotics, which can contribute to TB diagnostic delay, were the most common medicine (76.5%, 95% CI 71.7% to 80.7% of all visits). A majority (86.1%, 95% CI 82.9% to 88.5%) belonged to the WHO Access group; fluoroquinolones made up 8.8% (95% CI 6.3% to 12.3%). Factors associated with antibiotic use included if the SP was asked to follow-up if symptoms persisted (RR 1.14, 95% CI 1.04 to 1.25) and if the SP presented as HIV-positive (RR 1.11, 95% CI 1.01 to 1.23). An injection was offered in 31.9% (95% CI 27.0% to 37.2%) of visits; 92% were unexplained. Most (61.8%, 95% CI 60.2% to 63.3%) medicines were not listed on the South African Primary Healthcare Essential Medicines List.

Conclusion Prescribing practices among private GPs for persons presenting with TB-like symptoms in South Africa raise concern about inappropriate antimicrobial use, private healthcare costs and TB diagnostic delay.

3. BMJ Global Health 2022;7:e007462. Practice

Tracking changes in national BCG vaccination policies and practices using the BCG World Atlas

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Abstract

The BCG vaccine is a widely given vaccine against tuberculosis (TB), yet studies on effectiveness have shown considerable heterogeneity; as a result, BCG vaccine policies vary greatly across the globe and change across geography, and with time and disease burden. The recently updated third BCG World Atlas (www.bcgatlas.org) is a publicly available online database with information on BCG practices across 194 countries. This helpful resource has been used for over 10 years to support clinicians, TB researchers and TB vaccine development worldwide. Here, we summarise main findings from the third BCG Atlas' most recent update which included additional data collected around BCG strain type, vaccine stockouts and associated changes. Longitudinal analysis enables evaluation of changes in TB incidence over time, a method becoming more common in legislation interventions. A large number of countries in the BCG Atlas (156/194 countries) maintain universal neonatal BCG vaccination, of which 51 are considered low TB burden countries. We demonstrate the majority of countries who changed their national policy moved to targeted vaccination for high-risk groups, were in Europe and also had significant decreases in TB incidence both before and after policy change. Globally, the most common BCG strain continues to be the Danish strain, despite its worldwide manufacturing interruption in 2015. Substantial variation and disproportionality exists in which regions were most affected by stockouts between 2009 and 2019. Tracking and understanding the reasoning behind changes to national BCG practices and their impact on TB burden is critical for decision makers as they contemplate how to include BCG vaccination in future immunisation guidelines in low and high TB burden countries.

4. Review Emerg Infect Dis . 2021 Dec;27(12):2988-2998.

Evaluation of Early Warning, Alert and Response System for Ebola Virus Disease, Democratic Republic of the Congo, 2018-2020

Mory Keita et al.,

The 10th and largest Ebola virus disease epidemic in the Democratic Republic of the Congo (DRC) was declared in North Kivu Province in August 2018 and ended in June 2020. We describe and evaluate an Early Warning, Alert and Response System (EWARS) implemented in the Beni health zone of DRC during August 5, 2018-June 30, 2020. During this period, 194,768 alerts were received, of which 30,728 (15.8%) were validated as suspected cases. From these, 801 confirmed and 3 probable cases were detected. EWARS showed an overall good performance: sensitivity and specificity >80%, nearly all (97%) of alerts investigated within 2 hours of notification, and good demographic representativeness. The average cost of the system was US $438/case detected and US $1.8/alert received. The system was stable, despite occasional disruptions caused by political insecurity. Our results demonstrate that EWARS was a cost-effective component of the Ebola surveillance strategy in this setting.

Community Health

5. BMJ 2021;375:n2467 Analysis Building Healthy Communities

Urban heat: an increasing threat to global health

Shilu Tong, et al., S Tong tongshilu@scmc.com.cn

Shilu Tong and colleagues describe the health consequences of extreme urban heat and the priorities for action and research to mitigate the harms

Cities are a crucial concern in dealing with climate change because an increasing proportion of the global population lives in urban areas. The world's urban population is expected to grow from 4.2 billion in 2018 to 6.7 billion by 2050, including a burgeoning ageing population. Meanwhile, because of human induced climate change, the frequency of extreme climate events is increasing worldwide. Climate change, urbanisation, and an ageing population create a "perfect storm" of risks to global health, particularly from urban heat.

If we do nothing, current temperature extremes are projected to be exceeded across much of the Earth by 2100. The more extreme that heat events are, the greater the potential to push ecosystems and communities beyond their ability to cope. Whether we can achieve sustainable development depends on our actions now and over the next few years. As heat related health risks are particularly severe in cities, it is imperative to assess these risks and respond effectively.

Health consequences of heat exposure

Anthropogenic emissions of greenhouse gases are altering our climate system, and more frequent and intense heat related disasters such as heatwaves, droughts, and wildfires have already led to increased mortality and morbidity. For example, the number of excess deaths during the 2003 heatwave in Europe was estimated to be 70 000, including around 15 000 people in France alone. The 2018 Japan heatwaves resulted in over 20 000 hospital admissions related to heat stroke, mostly in people aged 65 years or older.

Raised ozone levels due to higher temperatures and air pollutants from burning fossil fuels also increase cardiorespiratory mortality and morbidity, possibly by increasing cholesterol levels and systemic inflammation. Rising incidence of kidney disease and mental illness associated with exposure to urban heat are other devastating effects. Additionally, increasing urban heat is expected to reduce labour productivity and outdoor working capacity, particularly in the tropics and subtropics. The health effects of extreme heat events have the potential to overwhelm health systems, which in turn may have further negative health consequences, particularly in developing countries.

The nature and magnitude of health risks depends on the hazards created by a changing climate, and the exposure and sensitivity of individuals and communities. For instance, an international study examined the effects of greenhouse gas emissions, population growth, and adaptation on heatwave related mortality. Compared with 1971–2020, the predicted rise in mortality in 2031–80 varied from 2000% in Colombia to 150% in Moldova under the highest emissions and high variant population scenario, without any adaptation. For a lower emissions scenario and adaptation, the mortality increase would be much smaller.

6. BMJ Global Health 2022;7:e007544. Original research

A growing disadvantage of being born in an urban area? Analysing urban–rural disparities in neonatal mortality in 21 African countries with a focus on Tanzania

Norris M, Klabbers G, Pembe AB, et al

Abstract

Introduction. Neonatal mortality rate (NMR) has been declining in sub-Saharan African (SSA) countries, where historically rural areas had higher NMR compared with urban. The 2015–2016 Demographic and Health Survey (DHS) in Tanzania showed an exacerbation of an existing pattern with significantly higher NMR in urban areas. The objective of this study is to understand this disparity in SSA countries and examine the specific factors potentially underlying this association in Tanzania.

Methods. We assessed urban–rural NMR disparities among 21 SSA countries with four or more DHS, at least one of which was before 2000, using the DHS StatCompiler. For Tanzania DHS 2015–2016, descriptive statistics were carried out disaggregated by urban and rural areas, followed by bivariate and multivariable logistic regression modelling the association between urban/rural residence and neonatal mortality, adjusting for other risk factors.
Results. Among 21 countries analysed, Tanzania was the only SSA country where urban NMR (38 per 1000 live births) was significantly higher than rural (20 per 1,000), with largest difference during first week of life. We analysed NMR on the 2015–2016 Tanzania DHS, including live births to 9736 women aged between 15 and 49 years. Several factors were significantly associated with higher NMR, including multiplicity of pregnancy, being the first child, higher maternal education, and male child sex. However, their inclusion did not attenuate the effect of urban–rural differences in NMR. In multivariable models, urban residence remained associated with double the odds of neonatal mortality compared with rural.
Conclusion. There is an urgent need to understand the role of quality of facility-based care, including role of infections, and health-seeking behaviour in case of neonatal illness at home. However, additional factors might also be implicated and higher NMR within urban areas of Tanzania may signal a shift in the pattern of neonatal mortality across several other SSA countries.

7. Am J Trop Med Hyg. 2022 Feb 7;tpmd201530. Online ahead of print.

Escherichia coli Ingested via Food May Overshadow the Positive Effects of Clean Drinking Water: An Example from Dhaka
Peter Kjær Mackie Jensen et al., Copenhagen Center for Disaster Research, Section for Global Health, Department of Public Health, University of Copenhagen, Copenhagen, Denmark.

The minimal health impact observed in large-scale water sanitation and hygiene (WASH) intervention studies motivated us to investigate the contribution of contaminated food and drinking water to the total daily Escherichia coli load ingested by the average adult in a low-income, urban area. Leftover food (food left at room temperature for more than 6 hours) from 32 households was collected eight times at 6-week intervals in 2014-2015 in the low-income area of Arichpur, Dhaka, Bangladesh. In total, 117 samples were obtained from four food types: fish, lentils, rice, and vegetables, which comprise approximately 85.2% of the average adult's personal daily food consumption. Samples were analyzed for E. coli using selective chromogenic media. For an average adult, the daily consumption of the four food types at mean contamination levels of E. coli can contribute 4.45 log colony-forming units (cfu)/day (95% confidence interval 4.06-4.84). Drinking water quality was measured 211 times at the point of drinking, with a mean, median, and maximum contamination of 1.9, 1.2, and 2.82 log E. coli cfu/100 mL, respectively. If the typical adult in Arichpur were able to drink water with 0 E. coli cfu/100 mL, it would only remove < 5.2% of the total E. coli ingested per day with a mean-contaminated diet. These approximations may suggest why insignificant effects have been observed for water quality interventions in similar, low-hygiene settings. In Arichpur, the E. coli contribution from drinking water to the total E. coli load was insufficient to exert a substantial effect.

8. Health Policy and Planning, 2021, Vol 36 (9): 1451 – 1458

Health systems, population and patient challenges for achieving universal health coverage for hypertension in Ghana
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Ghana has signed on to the United Nations Sustainable Development Goal to achieve universal health coverage (UHC), ensuring that all individuals receive the health care they require without financial hardship. Achieving that goal is a difficult task in any setting. The challenges are further exacerbated by a changing disease landscape, as the burden of non-communicable diseases (NCDs) is increasing and creating a dual burden along with infectious diseases. This study explores the existing health system for delivering hypertension care and the challenges of delivering UHC for hypertension in Ghana. Document analysis of national health reports, policies and legislations along with a review of research articles was conducted to explore the challenges of delivering UHC for NCDs in Ghana, and hypertension in particular. The main themes and indicators related to the challenges of delivering UHC for hypertension were mapped and analysed. The main challenges to delivering UHC for hypertension can be grouped into population and patient, on the one hand, and health system factors, on the other. Population and patient factors include (1) unhealthy lifestyles overburdening the health system, (2) poor health-seeking behaviour and (3) poor adherence to medication, which has led to uncontrolled cases and poor clinical outcomes even among treated patients with hypertension. Health system factors include (1) inadequate health system capacity for early diagnosis due to an increasing number of patients, (2) inequitable distribution of health care facilities affecting access, (3) financial sustainability of the National Health Insurance Scheme and delays in reimbursement of claims to facilities that affect the health system's ability to provide timely management of hypertension and (4) health care facilities and practitioners' use of non-standardized and uncalibrated blood pressure measuring equipment. Ghana therefore will need to make important decisions to overcome operational and financial challenges on its path to UHC.

9. Health Policy and Planning, 2021, Vol 36 (10): 1705 - 1714

Barriers to uptake of community-based health insurance in sub-Saharan Africa: a systematic review

Zewdneh Shewamene, et al. *Corresponding author. Ethiopian Health Insurance Agency, Addis Ababa 1176, Ethiopia. E-mail: zeedshow@gmail.com

In the past two decades, community-based Health Insurance (CBHI) is expanding in most of sub-Saharan African countries with the aim of improving equitable access to health services for the informal sector population. However, population enrolment into CBHI and membership renewals thereafter remains stubbornly low. The purpose of this systematic review is to generate an evidence to better understand barriers to uptake of CBHI in sub-Saharan African countries. We systematically searched for relevant studies from databases: PubMed, Scopus, Cumulative Index of Nursing and Allied Health Literature (CINAHL), PsychInfo, ProQest, Excerpta Medica dataBASE (EMBASE) and Africa-Wide Information. The search strategy combined detailed terms related to (i) CBHI, (ii) enrolment/renewal and (iii) sub-Saharan African countries. A narrative synthesis of findings was reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The protocol for this systematic review was registered with International Prospective Register of Systematic Reviews (PROSPERO) (ref: CRD42020183959). The database search identified 4055 potential references from which 15 articles reporting on 17 studies met the eligibility criteria. The findings revealed that barriers to uptake of CBHI in sub-Saharan Africa were multidimensional in nature. Lack of awareness about the importance of health insurance, socio-economic factors, health beliefs, lack of trust towards scheme management, poor quality of health services, perceived health status and limited health benefit entitlements were reported as barriers that affect enrolments into CBHI and membership renewals. The methodological quality of studies included in this review has been found to be mostly suboptimal. The overall findings of this systematic review identified major barriers of CBHI uptake in sub-Saharan African countries which may help policymakers to make evidence-informed decisions. Findings of this review also highlighted that further research with a robust methodological quality, depth and breadth is needed to help better understand the factors that limit CBHI uptake at individual, societal and structural levels in sub-Saharan Africa.

Covid-19

10. Lancet. 2022 Feb 1;S0140-6736(22)00172-6. Online ahead of print.

Pandemic preparedness and COVID-19: an exploratory analysis of infection and fatality rates, and contextual factors associated with preparedness in 177 countries, from Jan 1, 2020, to Sept 30, 2021

Thomas J Bollyky et al., COVID-19 National Preparedness Collaborators

Background: National rates of COVID-19 infection and fatality have varied dramatically since the onset of the pandemic. Understanding the conditions associated with this cross-country variation is essential to guiding investment in more effective preparedness and response for future pandemics.
Methods: Daily SARS-CoV-2 infections and COVID-19 deaths for 177 countries and territories and 181 subnational locations were extracted from the Institute for Health Metrics and Evaluation's modelling database. Cumulative infection rate and infection-fatality ratio (IFR) were estimated and standardised for environmental, demographic, biological, and economic factors. For infections, we included factors associated with environmental seasonality (measured as the relative risk of pneumonia), population density, gross domestic product (GDP) per capita, proportion of the population living below 100 m, and a proxy for previous exposure to other betacoronaviruses. For IFR, factors were age distribution of the population, mean body-mass index (BMI), exposure to air pollution, smoking rates, the proxy for previous exposure to other betacoronaviruses, population density, age-standardised prevalence of chronic obstructive pulmonary disease and cancer, and GDP per capita. These were standardised using indirect age standardisation and multivariate linear models. Standardised national cumulative infection rates and IFRs were tested for associations with 12 pandemic preparedness indices, seven health-care capacity indicators, and ten other demographic, social, and political conditions using linear regression. To investigate pathways by which important factors might affect infections with SARS-CoV-2, we also assessed the relationship between interpersonal and governmental trust and corruption and changes in mobility patterns and COVID-19 vaccination rates.
Findings: The factors that explained the most variation in cumulative rates of SARS-CoV-2 infection between Jan 1, 2020, and Sept 30, 2021, included the proportion of the population living below 100 m (5·4% [4·0-7·9] of variation), GDP per capita (4·2% [1·8-6·6] of variation), and the proportion of infections attributable to seasonality (2·1% [95% uncertainty interval 1·7-2·7] of variation). Most cross-country variation in cumulative infection rates could not be explained. The factors that explained the most variation in COVID-19 IFR over the same period were the age profile of the country (46·7% [18·4-67·6] of variation), GDP per capita (3·1% [0·3-8·6] of variation), and national mean BMI (1·1% [0·2-2·6] of variation). 44·4% (29·2-61·7) of cross-national variation in IFR could not be explained. Pandemic-preparedness indices, which aim to measure health security capacity, were not meaningfully associated with standardised infection rates or IFRs. Measures of trust in the government and interpersonal trust, as well as less government corruption, had larger, statistically significant associations with lower standardised infection rates. High levels of government and interpersonal trust, as well as less government corruption, were also associated with higher COVID-19 vaccine coverage among middle-income and high-income countries where vaccine availability was more widespread, and lower corruption was associated with greater reductions in mobility. If these modelled associations were to be causal, an increase in trust of governments such that all countries had societies that attained at least the amount of trust in government or interpersonal trust measured in

Denmark, which is in the 75th percentile across these spectrums, might have reduced global infections by 12·9% (5·7-17·8) for government trust and 40·3% (24·3-51·4) for interpersonal trust. Similarly, if all countries had a national BMI equal to or less than that of the 25th percentile, our analysis suggests global standardised IFR would be reduced by 11·1%. Interpretation: Efforts to improve pandemic preparedness and response for the next pandemic might benefit from greater investment in risk communication and community engagement strategies to boost the confidence that individuals have in public health guidance. Our results suggest that increasing health promotion for key modifiable risks is associated with a reduction of fatalities in such a scenario.

11. Am J Trop Med Hyg. 2022 Feb 9;tpmd211251. Online ahead of print.

Public Perceptions, More Than Misinformation, Explain Poor Adherence to Proven COVID-19 Control Measures

Bernard Seytre

Since the beginning of the COVID-19 pandemic, there has been a profusion of studies and webinars on the infodemic (the rapid diffusion of information on the internet). The infodemic is often cited as a key factor in the lack of adherence to COVID-19 preventive measures, including vaccination. A study we conducted in West Africa questions the reality of this impact: the majority of people who do not adhere to the preventive measures draw their opinion from their own experience, not from what they have viewed or read on social networks. Historically, resistance to public health messages and interventions, including vaccination, existed before the advent of the Internet. Studying the perceptions of the population and not only the circulation of information is necessary to fully understand the lack of adherence to the COVID-19 preventive measures and to build an effective communication strategy.

12. Am J Trop Med Hyg. 2021 Oct 20;105(6):1476-1482.

Restarting Neglected Tropical Diseases Programs in West Africa during the COVID-19 Pandemic: Lessons Learned and Best Practices

Achille Kabore et al., FHI 360, Washington, District of Columbia.

Countries across West Africa began reporting COVID-19 cases in February 2020. By March, the pandemic began disrupting activities to control and eliminate neglected tropical diseases (NTDs) as health ministries ramped up COVID-19-related policies and prevention measures. This was followed by interim guidance from the WHO in April 2020 to temporarily pause mass drug administration (MDA) and community-based surveys for NTDs. While the pandemic was quickly evolving worldwide, in most of West Africa, governments and health ministries took quick action to implement mitigation measures to slow the spread. The U.S. Agency for International Development's (USAID) Act to End NTDs | West program (Act | West) began liaising with national NTD programs in April 2020 to pave a path toward the eventual resumption of activities. This process consisted of first collecting and analyzing COVID-19 epidemiological data, policies, and standard operating procedures across the program's 11 countries. The program then developed an NTD activity restart matrix that compiled essential considerations to restart activities. By December 2020, all 11 countries in Act | West safely restarted MDA and certain surveys to monitor NTD prevalence or intervention impact. Preliminary results show satisfactory MDA program coverage, meaning that enough people are taking the medicine to keep countries on track toward achieving their NTD disease control and elimination goals, and community perceptions have remained positive. The purpose of this article is to share the lessons and best practices that have emerged from the adoption of strategies to limit the spread of the novel coronavirus during MDA and other program activities.

13. Health Policy and Planning, 2022, Vol 37 (2): 255 - 268

COVID-19 Preparedness and Response Plans from 106 countries: a review from a health systems resilience perspective

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Coronavirus disease (COVID-19) has exposed long-standing fragmentation in health systems strengthening efforts for health security and universal health coverage while these objectives are largely interdependent and complementary. In this prevailing background, we reviewed countries' COVID-19 Preparedness and Response Plans (CPRPs) to assess the extent of integration of non-COVID-19 essential health service continuity considerations alongside emergency response activities. We searched for COVID-19 planning documents from governments and ministries of health, World Health Organization (WHO) country offices and United Nations (UN) country teams. We developed document review protocols using global guidance from the WHO and UN and the health systems resilience literature. After screening, we analysed 154 CPRPs from 106 countries. The majority of plans had a high degree of alignment with pillars of emergency response such as surveillance (99%), laboratory systems (96%) and COVID-19-specific case management (97%). Less than half considered maintaining essential health services (47%); 41% designated a mechanism for health system–wide participation in emergency planning; 34% considered subnational service delivery; 95% contained infection prevention and control (IPC) activities and 29% considered quality of care; and 24% were budgeted for and 7% contained monitoring and evaluation of essential health services. To improve, ongoing and future emergency planning should proactively include proportionate activities, resources and monitoring for essential health services to reduce excess mortality and morbidity. Specifically, this entails strengthening subnational health services with local stakeholder engagement in planning; ensuring a dedicated focus in emergency operations structures to maintain health systems resilience for non-emergency health services; considering all domains of

quality in health services along with IPC; and building resilient monitoring capacity for timely and reliable tracking of health systems functionality including service utilization and health outcomes. An integrated approach to planning should be pursued as health systems recover from COVID-19 disruptions and take actions to build back better.

14. Bull World Health Organ. 2022 Feb 1; 100(2): 168–170.

National policy responses to maintain essential health services during the COVID-19 pandemic

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Essential health services – including services for human immunodeficiency virus (HIV) infection and/or acquired immunodeficiency syndrome (AIDS), tuberculosis, malaria, routine immunization, noncommunicable diseases, nutrition and reproductive, maternal, newborn, child and adolescent health – are foundational to primary health care and vital for protecting population health. The coronavirus disease 2019 (COVID-19) pandemic disrupted the delivery of essential health services in most countries, with ongoing and differing disruptions as the COVID-19 pandemic continues. A survey conducted by the World Health Organization (WHO) between May and July 2020 found that 90% (94/105) of countries responding had reported a disruption to such services, with lower- and middle income countries reporting generally greater disruptions. In early 2021, 94% (127/135) of surveyed countries reported some disruption in the previous 3 months. Disruptions pose a threat to health outcomes, with low- and middle-income countries facing a disproportionate burden. For example, researchers estimate that excess deaths in low- and middle income countries due to suspension of health services has the potential to erase decades of improvements in child and maternal mortality. Vulnerable populations, including women, children, internally displaced people and migrants, people with disabilities and people living in poverty, are the most affected by the COVID-19 pandemic and its secondary effects (such as effects on the economy, health and education). Disruption to health services risks widening existing inequities and leaving vulnerable populations even further behind. National governments and international agencies acknowledged risks to continuity of care early in the COVID-19 pandemic and began developing policies (which we define to include policies, norms, guidelines and strategies) to maintain or adapt the delivery of essential health services. WHO published interim guidance for maintaining these services during the COVID-19 pandemic on 25 March 2020, releasing final guidance on 1 June 2020.

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Lessons learnt

In the face of significant service disruptions during the COVID-19 pandemic, governments were swift in responding with COVID-19 policy guidance defining adaptations to support maintenance of essential health services. However, as the pandemic extends into a second year, little has changed; our analysis suggests further adaptations to policies after their initial release in mid-2020 were limited, and so were additional efforts to engage implementers or beneficiaries. Based on our experience from the COVID-19 policy analysis, we recommend two key learning actions to advance current recovery efforts and respond to future outbreaks.

First, future policy development efforts must aim to integrate across essential health service areas, an important step towards integrated, person-centred primary health care. Some countries were able to achieve greater policy integration including through processes such as multisectoral COVID-19 task forces or institutions (for example political commitment and movement towards primary health care and essential health services); these should be strengthened in all countries. Global technical and normative agencies can help by developing integrated guidance to ensure coherence and consistency. As countries move forward with updating primary health-care policies and operational guidance based on WHO's Operational Framework for Primary Health Care,9 now is a good opportunity to consider whether and how the COVID-19-related adaptations can be incorporated into standards of care to strengthen primary health care – and to carefully consider streamlining policy adaptations within the umbrella of such care to help limit the over-proliferation of disease-specific policy adaptations and guidance.

Second, while policy development is a necessary first step, our review highlighted gaps in effective implementation. Monitoring and evaluating policy implementation and effectiveness of adaptations to deliver essential health services in a pandemic context is needed. To enable timely, evidence-informed decision-making, we recommend increased investment in rapid policy evaluation or implementation research to document which of the policy adaptations are indeed implemented, and to assess the feasibility and effectiveness of those policy adaptations in low- and middle income countries. Many of the essential health service adaptations identified in the COVID-19 policy guidance serve as promising approaches for strengthening person-centred primary health care in a non-pandemic context, for example expanding delivery models that increase service integration or extending service hours and locations to be more responsive to user needs and preferences. Learning about which of these could strengthen essential health services and primary health care in a non-pandemic context, and how to institutionalize local innovation and adaptation is critical.

Nearly 2 years into the COVID-19 pandemic, the resilience of health systems remains threatened, as does access to and effective coverage of high-quality health care. Health policy presents a lever for change if policies reflect local needs and context, are developed through citizen engagement and are robustly monitored and adapted based on learning.

Eye Care / Opthalmology

15. Randomized Controlled Trial Lancet Glob Health

2021 Nov;9(11):e1589-e1599. doi: 10.1016/S2214-109X(21)00348-X. Epub 2021 Oct 13.

Selective laser trabeculoplasty versus 0·5% timolol eye drops for the treatment of glaucoma in Tanzania: a randomised controlled trial

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Abstract

Background: Glaucoma is a major cause of sight loss worldwide, with the highest regional prevalence and incidence reported in Africa. The most common low-cost treatment used to control glaucoma is long-term timolol eye drops. However, low adherence is a major challenge. We aimed to investigate whether selective laser trabeculoplasty (SLT) was superior to timolol eye drops for controlling intraocular pressure (IOP) in patients with open-angle glaucoma.

Methods: We did a two-arm, parallel-group, single-masked randomised controlled trial at the Eye Department of Kilimanjaro Christian Medical Centre, Moshi, Tanzania. Eligible participants (aged ≥18 years) had open-angle glaucoma and an IOP above 21 mm Hg, and did not have asthma or a history of glaucoma surgery or laser. Participants were randomly assigned (1:1) to receive 0·5% timolol eye drops to administer twice daily or to receive SLT. The primary outcome was the proportion of eyes from both groups with treatment success, defined as an IOP below or equal to target pressure according to glaucoma severity, at 12 months following randomisation. Re-explanation of eye drop application or a repeat SLT was permitted once. The primary analysis was by modified intention-to-treat, excluding participants lost to follow-up, using logistic regression; generalised estimating equations were used to adjust for the correlation between eyes. This trial was registered with the Pan African Clinical Trials Registry, number PACTR201508001235339.

Findings: 840 patients were screened for eligibility, of whom 201 (24%) participants (382 eligible eyes) were enrolled between Aug 31, 2015, and May 12, 2017. 100 (50%) participants (191 eyes) were randomly assigned to the timolol group and 101 (50%; 191 eyes) to the SLT group. After 1 year, 339 (89%) of 382 eyes were analysed. Treatment was successful in 55 (31%) of 176 eyes in the timolol group (16 [29%] of 55 eyes required repeat administration counselling) and in 99 (61%) of 163 eyes in the SLT group (33 [33%] of 99 eyes required repeat SLT; odds ratio 3·37 [95% CI 1·96-5·80]; p<0·0001). Adverse events (mostly unrelated to ocular events) occurred in ten (10%) participants in the timolol group and in eight (8%) participants in the SLT group (p=0·61).

Interpretation: SLT was superior to timolol eye drops for managing patients with open-angle high-pressure glaucoma for 1 year in Tanzania. SLT has the potential to transform the management of glaucoma in sub-Saharan Africa, even where the prevalence of advanced glaucoma is high.

Health and Climate

16. Lancet 2021;398(10311):1619-62 Review

The 2021 report of the Lancet Countdown on health and climate change: code red for a healthy future

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The Lancet Countdown is an international collaboration that independently monitors the health consequences of a changing climate. Publishing updated, new, and improved indicators each year, the Lancet Countdown represents the consensus of leading researchers from 43 academic institutions and UN agencies. The 44 indicators of this report expose an unabated rise in the health impacts of climate change and the current health consequences of the delayed and inconsistent response of countries around the globe—providing a clear imperative for accelerated action that puts the health of people and planet above all else.

The 2021 report coincides with the UN Framework Convention on Climate Change 26th Conference of the Parties (COP26), at which countries are facing pressure to realise the ambition of the Paris Agreement to keep the global average temperature rise to 1·5°C and to mobilise the financial resources required for all countries to have an effective climate response. These negotiations unfold in the context of the COVID-19 pandemic—a global health crisis that has claimed millions of lives, affected livelihoods and communities around the globe, and exposed deep fissures and inequities in the world's capacity to cope with, and respond to, health emergencies. Yet, in its response to both crises, the world is faced with an unprecedented opportunity to ensure a healthy future for all.

17. Health Policy and Planning, 2021, Vol 36 (9): 1359 – 1361

EDITORIAL: Call for emergency action to limit global temperature increases, restore biodiversity, and protect health: Wealthy nations must do much more, much faster*

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The UN General Assembly in September 2021 will bring countries together at a critical time for marshalling collective action to tackle the global environmental crisis. They will meet again at the biodiversity summit in Kunming, China, and the climate conference (COP26) in Glasgow, UK. Ahead of these pivotal meetings, we—the editors of health journals worldwide—call for urgent action to keep average global temperature increases below 1.5°C, halt the destruction of nature, and protect health.

Health is already being harmed by global temperature increases and the destruction of the natural world, a state of affairs health professionals have been bringing attention to for decades (https://healthyrecovery.net). The science is unequivocal; a global increase of 1.5°C above the pre-industrial average and the continued loss of biodiversity risk catastrophic harm to health that will be impossible to reverse (Intergovernmental Panel on Climate Change, 2018; Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, 2019). Despite the world's necessary preoccupation with covid-19, we cannot wait for the pandemic to pass to rapidly reduce emissions.

Reflecting the severity of the moment, this editorial appears in health journals across the world. We are united in recognising that only fundamental and equitable changes to societies will reverse our current trajectory.

Abridged (with many recent references to health consequences of climate change)

Health Policy

18. Health Policy and Planning, 2022, Vol 37 (2): 281 - 291

Review: Understanding the complexity of demand-side determinants on vaccine uptake in sub-Saharan Africa

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Routine vaccination annually prevents millions of deaths worldwide but is underutilized in sub-Saharan Africa (SSA). The complexity of socio-cultural factors impacting vaccine uptake is not well understood. Hence, this paper aims to review the socio-cultural determinants of vaccine uptake and visualize their interrelationships. We conducted a literature search using Pubmed and Embase databases, including articles published from 2000 to 2019 describing socio-cultural demand-side determinants for vaccine uptake. Using the Andersen and Newman Framework of Health Services Utilization, demand-side determinants were categorized as predisposing, enabling or need factors. A qualitative system dynamics approach was employed to visualize how these factors and their dynamic interrelationships influence vaccine uptake. This visualization, by means of a causal-loop diagram (CLD), was mostly based on a qualitative input, with the majority being statements of the authors. These statements were abstracted from the papers found in the review. Quantification was done by counting direct (statistical) associations between each determinant and 'timely and full routine immunization coverage'. A total of 90 articles, primarily from Nigeria (n = 23), Ethiopia (n = 17) and Kenya (n = 11), met the inclusion criteria. We find that maternal autonomy and the perceived benefits caregivers attach to vaccination and exert their influences on many other factors through several feedback loops, thereby influencing timely and full routine immunization coverage. Utilization of health services (supply-related) and access to information (demand-related) were considered as high-potential leverage points. Quantification has shown that maternal autonomy and perceived benefit have an unclear evidence base. Future research should focus on these key players as they play a central role in multiple complex pathways, through which they could influence the uptake of vaccines in SSA.

19. Lancet 2021; 398(10315): 1997–2050

The Lancet Commission on diagnostics: transforming access to diagnostics

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At the end of 2019, the first reports of a new respiratory virus appeared in China. The subsequent COVID-19 pandemic has affected every person, in every country, in the world. One early lesson was the crucial importance of timely accurate diagnosis. A second lesson was the widespread scarcity of such diagnostic capacity and capability.

The second lesson supported the findings of the 2018 Lancet Series on Pathology and Laboratory Medicine in Low-Income and Middle-Income Countries, namely that despite diagnostics being central to health care, access to diagnostic testing in pathology and laboratory medicine (PALM) is poor and inequitable in many parts of the world. In diagnostic imaging (DI), the other major diagnostic discipline, data are scarce, but what data are available suggest the situation is similar or even worse.

Key messages

1 47% of the global population has little to no access to diagnostics.

2 Diagnostics are central and fundamental to quality health care. This notion is under-recognised, leading to underfunding and inadequate resources at all levels.

3 The level of primary health care is the diagnostic so-called last mile and particularly

affects poor, rural, and marginalised communities globally; appropriate access is essential for equity and social justice.
4 The COVID-19 pandemic has emphasised the crucial role of diagnostics in health care and that without access to diagnostics, delivery of universal health coverage, antimicrobial resistance mitigation, and pandemic preparedness cannot be achieved.
5 Innovations within the past 15 years in many areas (eg, in financing, technology, and workforce) can reduce the diagnostic gap, improve access, and democratise diagnostics to empower patients.
6 As an example of the potential impact, 1·1 million premature deaths in low-income and middle-income countries could be avoided annually by reducing the diagnostic gap for six priority conditions: diabetes, hypertension, HIV, and tuberculosis in the overall population, and hepatitis B virus infection and syphilis for pregnant women.
7 The economic case for such investment is strong. The median benefit–cost exceeds one for five of the six priority conditions in middle-income countries, and exceeds one for four of the six priority conditions in low-income countries, with a range of
1·4:1 to 24:1.
Given the depth and breadth of the problems, sustained access to quality, affordable diagnostics will require multi-decade prioritisation, commitment, and investment. Incorporating diagnostics into universal health coverage packages will begin this process.
Recommendations from this Commission
1 National diagnostics strategy, based on an integrated and tiered network, including an evidence-based essential diagnostics list (EDL), with a prioritised subset for universal health coverage
2 Primary health centre diagnostic availability and accessibility
3 Health workforce expansion and upskilling for contemporary diagnostic skills
4 Governance and regulatory frameworks to support and oversee diagnostic quality and safety
5 National financing strategy to provide sufficient, long- term financing to plan and implement diagnostics, including infrastructure
6 Improve the affordability of diagnostics
7 Foster development and appropriate use of technology to benefit everyone
8 Address the diagnostics needs of populations living in fragile and conflict situations
9 Advocate at all levels to ensure that diagnostics receive appropriate recognition and funding
10 International Diagnostics Alliance to support and monitor the effort in transforming diagnostics

20. TMIH 2021;40(3):402-19 Review

Alcohol consumption, harms and policy developments in sub-Saharan Africa: The case for stronger national and regional responses

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Issues: Sub-Saharan Africa (SSA) has long been characterised as a region with weak alcohol policies, high proportions of abstainers and heavy episodic drinkers (among drinkers), and as a target for market expansion by global alcohol producers. However, inter-regional analyses of these issues are seldom conducted.
Approach: Focusing mainly on the period 2000-2016, we compare alcohol consumption and harms, alcohol policy developments and alcohol industry activities over time and across the four sub-regions of SSA.
Key findings: Per-capita consumption of alcohol and alcohol-related disease burden have increased in Central Africa but stabilised or reduced in other regions, although they are still high. Most countries have implemented tax policies, but they have seldom adopted other World Health Organization 'best buys' for cost-effective alcohol control policies. Countries range from having minimal alcohol controls to having total bans (e.g. some Muslim-majority countries); and some, such as Botswana, have attempted stringent tax policies to address alcohol harm. Alcohol producers have continued their aggressive marketing and policy interference activities, some of which have been highlighted and, in a few instances, resisted by civil society and public health advocates, particularly in southern Africa.
Implications: Increased government support and commitment are needed to be able to adopt and implement effective alcohol policies and respond to pressures from alcohol companies to which SSA remains a target market.
Conclusion: SSA needs effective alcohol control measures in order to reverse the trajectory of worsening alcohol harms observed in some countries and reinforce improvements in alcohol harms observed in others.

21. Am J Trop Med Hyg. 2021 Nov 15;tpmd210046. Online ahead of print.

Effectiveness and Community Acceptance of Extending Seasonal Malaria Chemoprevention to Children 5 to 14 Years of Age in Dangassa, Mali

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Seasonal malaria chemoprevention (SMC) was adopted in Mali in 2012 for preventing malaria in children younger than 5 years. Although this strategy has been highly effective in reducing childhood malaria, an uptick in malaria occurrence has

occurred in children 5 to 15 years of age. This study aimed to investigate the feasibility of providing SMC to older children. A cohort of 350 children age 5 to 14 years were monitored during the 2019 transmission season in Dangassa, Mali. The intervention group received five monthly rounds of sulfadoxine-pyrimethamine plus amodiaquine, whereas the control group consisted of untreated children. Community acceptance for extending SMC was assessed during the final round. Logistic regression models were applied to compare the risk of Plasmodium falciparum malaria infection, anemia, and fever between the intervention and control groups. Kaplan-Meier survival analyses were used to compare the time to P. falciparum parasitemia infection between the groups. The community acceptance rate was 96.5% (139 of 144). Significant declines were observed in the prevalence of P. falciparum parasitemia (adjusted odds ratio, 0.22; 95% CI, 0.11-0.42) and anemia (adjusted odds ratio, 0.15; 95% CI, 0.07-0.28) in the intervention group compared with the control group. The cumulative incidence of P. falciparum infections was significantly greater (75.4%, 104 of 138) in the control group compared with the intervention group (40.7%, 61 of 143, P = 0.001). This study reveals that expanding SMC to older children is likely feasible, has high community acceptance, and is in reducing uncomplicated malaria and anemia in older children.

22. Am J Trop Med Hyg. 2021 Nov 8;106(1):29-32.

Ten Years of Universal Testing: How the Rapid Diagnostic Test Became a Game Changer for Malaria Case Management and Improved Disease Reporting

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In 2010, the World Health Organization changed its guidance on malaria case management, recommending parasitological confirmation of all suspected cases before treatment with an antimalarial. This recommendation was in large part as a result of the availability of quality assured malaria rapid diagnostic tests (RDTs) that made it possible for malaria diagnosis to be performed by laboratory staff in all health facilities irrespective of the facility's place in the tiered health system. Community health workers and other non-laboratory health workers who traditionally did not perform malaria testing due to the technical and logistic demands of smear microscopy were now able to test for malaria. The use of RDTs has led to substantial increases in testing rates, improved quality of case management, as well as more accurate reporting of malaria cases. Although current RDTs have limitations, they remain one of the most important tools in contemporary malaria control. Further improvements to existing products, such as increased sensitivity for non-falciparum tests, diversification of Plasmodium falciparum antigen targets, along with strengthened health system support for current RDTs will further enhance their utility in malaria control and prevention.

23. Health Policy and Planning, Vol 36, Issue Supplement_1, Dec 2021, Pages i1–i3

Reimagining health systems: reflections from the 6th Global Symposium on Health Systems research

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In a year like no other in living memory, Health Systems Global (HSG) held an unprecedented and entirely virtual biennial symposium. It was fitting therefore that our theme was ‘Reimagining Health Systems for better health and social justice’. At the time of writing the original call for abstracts, we focused on the challenges to achieving Universal Health Coverage (UHC) and the broader health-related Sustainable Development Goals (SDGs) and, in particular, the tectonic shifts currently taking place in our globally connected world—from climate change to massive population migration and refugee crises and political polarization—that we saw as potentially undermining the political will to achieve UHC as well as the feasibility of doing so. In crafting the call for abstracts, we argued that ‘Health systems, as they stand today, are not equipped to address increasingly complex and interconnected health and development challenges of the twenty-first century’. Of course, since drafting this, the COVID-19 pandemic has further underscored the point: radical change is required in our health systems to protect people across the world from current and new health threats and, in particular, the poor and most vulnerable who have suffered most during the pandemic.

In unpacking this broad and ambitious theme, we identified three sub-themes that guided the agenda for the Symposium, namely:

• Engaging political forces that impact health systems—this theme cast a light on how power, politics and corruption work within health systems and sought to identify strategies that might strengthen accountability and promote stronger stewardship.

• Engaging social, economic and environmental forces—here, we sought contributions that analysed the broader social, economic and environmental forces that shape both access to health services and the way health systems across the world operate. In particular, we welcomed submissions that explored the connections between health systems and the major demographic and environmental shifts of our time, namely urbanization, migration and climate change.

• Engaging technological, data and social innovations—while it is easy to retreat to doom-mongering given current challenges, there are also remarkable innovations unfolding in health systems across the world. Much of this innovation is driven by new technologies spurred by artificial intelligence, big data or digital innovations, which, in turn, raises critical questions about the potential and risks of these interventions.

In line with HSG’s efforts to continue to build the field of Health Policy and Systems Research (HPSR), a stream within the Symposium addressed methodological issues in health systems research to support the essential transformations in health systems.

The 2020 Global Symposium on Health Systems Research brought together 2350 actors involved in health policy and systems research and practice from more than 125 countries. The call for abstracts attracted a total of 2721 submissions for individual sessions and 216 for organized sessions. Abstracts were reviewed and scored by scientific committee members and diverse high-scoring abstracts selected to build the scientific program for the Symposium.
This supplement to Health Policy and Planning emerged from a call for papers from the Symposium. Four out of the six papers are lead authored by colleagues based in low- and middle-income countries (LMIC), and all have strong LMIC participation reflecting the collective commitment of the society, Health Systems Global; the funder, the International Development Research Center (IDRC); and the journal, Health Policy and Planning to support promising authors from the Global South. The six papers in this supplement span the Symposium's three sub-themes, albeit with a notably lighter touch for the second theme where indeed, for the Symposium as a whole, we struggled to find significant contributions.
/Abridged.

Supplement articles:
• Equity in public health spending in Ethiopia: a benefit incidence analysis
Alemayehu Hailu, et al.
• Political economy and the pursuit of universal health coverage in Ghana: a case study of the National Health Insurance Scheme
Jacob Novignon, et al.
• Embedding Community-Based Newborn Care in the Ethiopian health system: lessons from a 4-year programme evaluation
Bilal Iqbal Avan, et al.
• Effects of a new health financing scheme on out-of-pocket health expenditure: findings from a longitudinal household study in Yangon, Myanmar
Si Thu Thein, et al.
• Organizational structure and human agency within the South African health system: a qualitative case study of health promotion
Teurai Rwafa-Ponela, et al.
• From effectiveness to sustainability: understanding the impact of CARE's Community Score Card© social accountability approach in Ntcheu, Malawi
Patience Mgoli Mwale

24. Emerg Infect Dis . 2022 Jan;28(1):180-187.

Effect on Antimicrobial Resistance of a Policy Restricting Over-the-Counter Antimicrobial Sales in a Large Metropolitan Area, São Paulo, Brazil

Maria L Moura et al.,

Although restricting over-the-counter (OTC) antimicrobial drug sales is recommended globally, no data track its effect on antimicrobial resistance (AMR) in bacteria. We evaluated the effect of a national policy restricting OTC antimicrobial sales, put in place in November 2010, on AMR in a metropolitan region of São Paulo, Brazil. We reviewed associations between antimicrobial sales from private pharmacies and AMR in 404,558 Escherichia coli and 5,797 Streptococcus pneumoniae isolates using a dynamic regression model based on a Bayesian approach. After policy implementation, a substantial drop in AMR in both bacterial species followed decreased amoxicillin and trimethoprim/sulfamethoxazole sales. Conversely, increased ciprofloxacin sales were associated with increased ciprofloxacin resistance, and extended spectrum β-lactamases-positive E. coli isolates and azithromycin sales increases after 2013 were associated with increased erythromycin resistance in S. pneumoniae isolates. These findings suggest that restricting OTC antimicrobial sales may influence patterns of AMR, but multifaceted approaches are needed to avoid unintended consequences.

HIV

25. TMIH 2021;26(11):1503-11

The cascade of care of HIV after one year of follow-up in a cohort of HIV-positive adult patients in three health settings of Morrumbene in rural Mozambique

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Objective: To assess the state of the retention in care of HIV patients in three health settings in Morrumbene, a rural district of Inhambane Province, Mozambique. We evaluated potential factors associated with early loss to follow-up (LTFU), retention in care and ART adherence during the first year of follow-up.
Material and methods: Retrospective, cross-sectional, observational study. We collected data on patients diagnosed with HIV infection in 2017 in two permanent clinics and one mobile clinic. Demographic, clinical, immunological and therapeutic data were retrieved up to December 31st, 2018. Data on follow-up were collected at 6 and 12 months for medical visits and for ART adherence and analysed for factors associated with LTFU, retention in care and adherence to ART by Stata Version 14 and univariate and stepwise multiple unconditional logistic regression models.
Results: In 2017, 960 patients were diagnosed with HIV infection. At 6-month follow-up, 49% attended the medical visit and 157 (25%) adhered to ART. After one year, 34% of patients were available for follow-up, and only 72 patients adhered to

ART. In multivariate analysis, factors associated with early LTFU were male sex (p = 0.036) and immediate prescription of ART (p = 0.064). Older age (p < 0.001) and being followed in the mobile clinic (p = 0.001) favoured retention in care. Advanced WHO status (p = 0.005) and being pregnant or breastfeeding showed a negative correlation with adherence to treatment (p = 0.068).
Conclusions: Only one-third of patients were available for follow-up after one year, and only 13% adhered to ART. Young individuals, men and pregnant/breastfeeding women seem to be particularly at risk for LTFU and non-adherence to treatment.

Mental Health

26. Lancet. 2021 Nov 6;398(10312):1700-1712. Epub 2021 Oct 8.

Global prevalence and burden of depressive and anxiety disorders in 204 countries and territories in 2020 due to the COVID-19 pandemic

COVID-19 Mental Disorders Collaborators: Damian F Santomauro et al.,

Background: Before 2020, mental disorders were leading causes of the global health-related burden, with depressive and anxiety disorders being leading contributors to this burden. The emergence of the COVID-19 pandemic has created an environment where many determinants of poor mental health are exacerbated. The need for up-to-date information on the mental health impacts of COVID-19 in a way that informs health system responses is imperative. In this study, we aimed to quantify the impact of the COVID-19 pandemic on the prevalence and burden of major depressive disorder and anxiety disorders globally in 2020.
Methods: We conducted a systematic review of data reporting the prevalence of major depressive disorder and anxiety disorders during the COVID-19 pandemic and published between Jan 1, 2020, and Jan 29, 2021. We searched PubMed, Google Scholar, preprint servers, grey literature sources, and consulted experts. Eligible studies reported prevalence of depressive or anxiety disorders that were representative of the general population during the COVID-19 pandemic and had a pre-pandemic baseline. We used the assembled data in a meta-regression to estimate change in the prevalence of major depressive disorder and anxiety disorders between pre-pandemic and mid-pandemic (using periods as defined by each study) via COVID-19 impact indicators (human mobility, daily SARS-CoV-2 infection rate, and daily excess mortality rate). We then used this model to estimate the change from pre-pandemic prevalence (estimated using Disease Modelling Meta-Regression version 2.1 [known as DisMod-MR 2.1]) by age, sex, and location. We used final prevalence estimates and disability weights to estimate years lived with disability and disability-adjusted life-years (DALYs) for major depressive disorder and anxiety disorders.
Findings: We identified 5683 unique data sources, of which 48 met inclusion criteria (46 studies met criteria for major depressive disorder and 27 for anxiety disorders). Two COVID-19 impact indicators, specifically daily SARS-CoV-2 infection rates and reductions in human mobility, were associated with increased prevalence of major depressive disorder (regression coefficient [B] 0·9 [95% uncertainty interval 0·1 to 1·8; p=0·029] for human mobility, 18·1 [7·9 to 28·3; p=0·0005] for daily SARS-CoV-2 infection) and anxiety disorders (0·9 [0·1 to 1·7; p=0·022] and 13·8 [10·7 to 17·0; p<0·0001]. Females were affected more by the pandemic than males (B 0·1 [0·1 to 0·2; p=0·0001] for major depressive disorder, 0·1 [0·1 to 0·2; p=0·0001] for anxiety disorders) and younger age groups were more affected than older age groups (-0·007 [-0·009 to -0·006; p=0·0001] for major depressive disorder, -0·003 [-0·005 to -0·002; p=0·0001] for anxiety disorders). We estimated that the locations hit hardest by the pandemic in 2020, as measured with decreased human mobility and daily SARS-CoV-2 infection rate, had the greatest increases in prevalence of major depressive disorder and anxiety disorders. We estimated an additional 53·2 million (44·8 to 62·9) cases of major depressive disorder globally (an increase of 27·6% [25·1 to 30·3]) due to the COVID-19 pandemic, such that the total prevalence was 3152·9 cases (2722·5 to 3654·5) per 100 000 population. We also estimated an additional 76·2 million (64·3 to 90·6) cases of anxiety disorders globally (an increase of 25·6% [23·2 to 28·0]), such that the total prevalence was 4802·4 cases (4108·2 to 5588·6) per 100 000 population. Altogether, major depressive disorder caused 49·4 million (33·6 to 68·7) DALYs and anxiety disorders caused 44·5 million (30·2 to 62·5) DALYs globally in 2020.
Interpretation: This pandemic has created an increased urgency to strengthen mental health systems in most countries. Mitigation strategies could incorporate ways to promote mental wellbeing and target determinants of poor mental health and interventions to treat those with a mental disorder. Taking no action to address the burden of major depressive disorder and anxiety disorders should not be an option.

27. Lancet 2021;398(10314):1859-60 Comment

World Mental Health Day: prioritise social justice, not only access to care

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World Mental Health Day (WMHD), which began in 1992, is focused on “Mental Health in an Unequal World” in 2021, encompassing issues of poverty and disparities due to race, ethnicity, sexual orientation, and gender identity. The theme underlines a need to address stigma and discrimination and human rights violations in the mental health sector and inadequate quality mental health services worldwide.
Panel: Five areas for policy action to promote mental health enabling environments
1. Safer societies for women, children, and people facing gender-based violence and exclusion

Living with various forms of interpersonal violence has been associated with increased risk of mental health problems and suicide, and, conversely, poorer outcomes for those with mental health problems. People from LGBTQI communities also face marked violence and exclusion, which has impacts on their mental health possibilities.
2. Reject hostile immigration environments
Current migration policies in many nations make it impossible for good mental health to be maintained, locking people in states of precarity, which increase risk for mental health crises and long-term conditions. Addressing the mental health needs of people who exist at the margins of society due to citizenship status, who are governed by policies that deny personhood to those who seek refuge from war, conflict, persecution, and other forms of exclusion, requires more than services; it requires policy engagement and change.
3. Decent livelihoods and fair wages
Unemployment has been associated with poor mental health outcomes and those with mental health problems also have high rates of unemployment. Efforts to establish fair wage campaigns across the world should be unified, supported, and strengthened.
4. Safe early childhood experiences
Childhood abuse, neglect, and other adverse experiences are associated with depression and other common mental disorders in adulthood. Prioritising the welfare and safe care of children in communities is an important mental health promotion strategy.
5. Protection from and rejection of racialised and minority exclusion
Globally, forms of racism, xenophobia, and caste-based exclusion impact directly and indirectly on the capacities for people to achieve good mental health across levels of society, systems, and services. Promotion of movements to end these are crucial.

28. Lancet Psychiatry 2021;8(11):941-2 Comment

Countdown Global Mental Health 2030: data to drive action and accountability

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Data can be a powerful tool to drive action and deliver change for mental health and psychosocial support. But long-standing challenges remain, including a lack of agreement on indicators; vast data gaps in the mental health of populations; and an absence of independent monitoring, evaluation, and accountability mechanisms to hold governments and other stakeholders to account.
These challenges are the reason why one of the key recommendations from The Lancet Commission on Global Mental Health and Sustainable Development published in 2018 was to establish a monitoring and accountability mechanism that uses a broad and integrated set of indicators to monitor progress for mental health. In response, Countdown Global Mental Health 2030 is launching its first report and a dashboard of data on selected indicators for all countries.
This free, publicly accessible, and interactive dash- board enables users to search data relevant to mental health by country using a range of indicators. The dashboard is accompanied by a report on the value of the data and how these can be used for policy and advocacy. These products have been developed to inform action. The indicators are clustered around three themes: determinants of mental health (eg, demographic, economic), factors shaping the demand for mental health care (eg, burden, financial accessibility), and factors shaping the strength of mental health systems (eg, mental health service level and quality, human resources). These indicators go beyond traditionally defined health indicators and span the entire spectrum of the Sustainable Development Goals (SDGs), rather than being restricted to narrow and limited indicators of mental health service. The aim is to encourage a collaborative approach towards the collection of mental health data and, in doing so, to integrate mental health across the SDG framework, going beyond the health sector, whether looking at the impact of climate change or the impact of gender disparities on mental health at a population level.
Developed by United for Global Mental Health in partnership with WHO, UNICEF, GlobalMentalHealth@ Harvard, Global Mental Health Peer Network, and The Lancet, the Countdown Global Mental Health dashboard shows how each country is doing on each of the indicators and how much progress is needed to move towards realising the goal of promoting mental health and wellbeing within the UN SDGs. The value of countdowns has already been well proven by initiatives such as The Lancet Countdown on health and climate change, the NCD Countdown 2030, and Countdown to 2030 for reproductive, maternal, newborn, child, and adolescent health and nutrition. These countdowns are raising the profile and global recognition of key issues, increasing political motivation and commitment to tackle them, and improving monitoring and accountability for current and subsequent actions and investments.

Non Communicable Diseases

29. Health Policy and Planning, 2022, Vol 37 (1): 152 - 167

How to dampen the surge of non-communicable diseases in Southeast Asia: insights from a systematic review and meta-analysis

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Non-communicable diseases (NCDs), such as diabetes, cancer, cardiovascular diseases and chronic respiratory diseases, have overtaken infectious diseases as the number one cause of death worldwide. The rise of these diseases is especially

grave in Southeast Asia, where existing research however falls short on offering guidance on how policy can best prevent and control NCDs in the region. Additionally, low- and middle-income countries in Southeast Asia cannot directly incorporate lessons drawn from interventions in richer countries, since health system capacities and human and financial resources are thoroughly different. Preventive interventions, thus, need to correspond to local capacities and require contextual solutions. In this article, we provide a systematic review of a wide scope of NCD interventions conducted in Southeast Asia to inform about existing intervention designs and to derive sound evidence of their effectiveness. Our literature search results in 51 studies from five Southeast Asian countries from which we can extract 204 estimates. We sort the studies into six intervention categories and analyse them with respect to 23 different health and behavioural outcomes. While we find positive and significant average effects across all six types of interventions, we also document evidence of substantial publication bias. Using a meta-regression approach in which we correct for the publication bias, we instead fail to confirm positive average effects for some interventions. Especially dietary and physical activity interventions fail to achieve improvements in analysed health outcomes, while programs focusing on smoking cessation, on the take-up of preventive screening activities or educating patients on how to cope with NCDs achieve sizeable effects. We also present evidence that the size of the effect differs with the participants' characteristics as well as with design features of the intervention. For local policymakers, the results provide important knowledge on how to address the increasing NCD burden in the coming years.

30. Lancet 2021;398(10309):1381 Editorial

Malaria vaccine approval: a step change for global health

On Oct 6, WHO announced that it will be recommending widespread use of the RTS,S/AS01 (RTS,S) malaria vaccine for children in sub-Saharan Africa and in other regions with moderate-to-high Plasmodium falciparum transmission. Malaria has ravaged people's lives for centuries; today the burden falls disproportionately on children in tropical regions. 229 million cases were recordedin2019, and 409000 people lost their lives, two-thirds of whom were younger than 5 years and living in sub-Saharan Africa. Broad roll-out across the region is now eminently achievable. Challenges remain, but this scientific triumph could be one of the most monumental opportunities in child health for a generation.
RTS,S is the first parasite vaccine to have obtained regulatory approval. Designed to target the sporozoite phase of the lifecycle, it blocks infection of the liver, where the parasite would otherwise mature, multiply, re-enter the bloodstream, and infect erythrocytes.
Pivotal phase 3 trials in 2009–14 took place in Burkina Faso, Gabon, Ghana, Kenya, Malawi, Mozambique, and Tanzania. The final results, published in The Lancet in 2015, showed that children in these regions receiving three doses of RTS,S plus a booster dose, between 5 and 17 months of age, would have a 29% reduced risk of severe malaria. Crucial implementation programmes in Kenya, Ghana, Malawi, Burkina Faso, and Mali, which will continue until 2023, have confirmed that, when combined with seasonal malaria chemoprevention, RTS,S can reduce death from malaria by over 70%. Compliance and acceptance are high, despite the complexity of the vaccination schedule, and implementation appears realistic, even in countries with under-resourced health-care infrastructure.
WHO's endorsement of RTS,S comes at a crucial time in malaria control. Between 2000 and 2015, widespread deployment of simple but innovative control measures turned the tide against malaria.
But progress has stagnated over the past 6 years, especially in high-burden countries.
A strong case for investment in health to reduce child and maternal mortality was made by the Lancet Commission on Investing in Health. For a disease that kills a child every 2 minutes, a vaccine with even a modest 30% efficacy could have a considerable effect on improving child survival. Wide availability of a malaria vaccine will mean that the prospect of ending preventable child mortality within a generation is now a step closer.
See also:
Lancet 2021;398(10309):1394; Cautious optimism for malaria vaccine roll-out from Samarasekera U.

31. Lancet 2021;398(10313):1837-50 Review

A century past the discovery of insulin: global progress and challenges for type 1 diabetes among children and adolescents in low-income and middle-income countries

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Type 1 diabetes is on the rise globally; however, the burden of mortality remains disproportionate in low-income and middle-income countries (LMICs). As 2021 marks 100 years since the discovery of insulin, we revisit progress, global burden of type 1 diabetes trends, and understanding of the pathogenesis and management practices related to the disease. Despite much progress, inequities in access and availability of insulin formulations persist and are reflected in differences in survival and morbidity patterns related to the disease. Some of these inequities have also been exacerbated by health-system challenges during the COVID-19 pandemic. There is a clear opportunity to improve access to insulin and related essential technologies for improved management of type 1 diabetes in LMICs, especially as a part of universal health coverage. These improvements will require concerted action and investments in human resources, community engagement, and education for the timely diagnosis and management of type 1 diabetes, as well as adequate health-care

financing. Further research in LMICs, especially those in Africa, is needed to improve our understanding of the burden, risk factors, and implementation strategies for managing type 1 diabetes.

32. TMIH 2021;26(12):1668-76

Trends in fever case management for febrile inpatients in a low malaria incidence setting of Tanzania

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Objectives: In 2010, WHO published guidelines emphasising parasitological confirmation of malaria before treatment. We present data on changes in fever case management in a low malaria transmission setting of northern Tanzania after 2010.
Methods: We compared diagnoses, treatments and outcomes from two hospital-based prospective cohort studies, Cohort 1 (2011-2014) and Cohort 2 (2016-2019), that enrolled febrile children and adults. All participants underwent quality-assured malaria blood smear-microscopy. Participants who were malaria smear-microscopy negative but received a diagnosis of malaria or received an antimalarial were categorised as malaria over-diagnosis and over-treatment, respectively.
Results: We analysed data from 2098 participants. The median (IQR) age was 27 (3-43) years and 1047 (50.0%) were female. Malaria was detected in 23 (2.3%) participants in Cohort 1 and 42 (3.8%) in Cohort 2 ($p = 0.059$). Malaria over-diagnosis occurred in 334 (35.0%) participants in Cohort 1 and 190 (17.7%) in Cohort 2 ($p < 0.001$). Malaria over-treatment occurred in 528 (55.1%) participants in Cohort 1 and 196 (18.3%) in Cohort 2 ($p < 0.001$). There were 30 (3.1%) deaths in Cohort 1 and 60 (5.4%) in Cohort 2 ($p = 0.007$). All deaths occurred among smear-negative participants.
Conclusion: We observed a substantial decline in malaria over-diagnosis and over-treatment among febrile inpatients in northern Tanzania between two time periods after 2010. Despite changes, some smear-negative participants were still diagnosed and treated for malaria. Our results highlight the need for continued monitoring of fever case management across different malaria epidemiological settings in sub-Saharan Africa.

33. TMIH 2022;27(1):99-109

Human health and economic impact of neurocysticercosis in Uganda

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Objective: Neurocysticercosis (NCC), caused by the pork tapeworm Taenia solium, is a major cause of acquired epilepsy in endemic regions. The Republic of Uganda, one of the great-lakes nations in East Africa, has undergone major strives of political instability in the past century, impeding control of T. solium and other foodborne diseases. Building on data on the epidemiology of NCC, we aimed to assess the health and economic impact of NCC-associated epilepsy and headache in Uganda.
Methods: We used DisMod II to generate an internally consistent, complete and age-stratified set of epidemiological parameters for NCC epilepsy, and subsequently modelled the NCC headache incidence from the NCC epilepsy incidence. The health impact of both conditions was quantified in terms of Disability-Adjusted Life Years (DALYs), while the economic impact was quantified as the cost of illness associated with direct healthcare costs, patient costs and productivity losses. For both assessments, we adopted an incidence perspective and used 2010 as reference year. Uncertainty was propagated using 100,000 Monte Carlo simulations.
Results: In 2010, NCC was estimated to cause more than 9000 (CI: 7685-11,071) new cases of epilepsy and nearly 1500 new cases of headache, eventually leading to nearly 3000 deaths. Overall, it was estimated that NCC led to more than 170,000 DALYs (5.2 per 1000 person years; 16 per incident case) and an economic loss of more than USD 75 million (8000 per incident case). Non-fatal health outcomes were the largest contributors to the overall health impact, while productivity losses dominated the NCC cost of illness.
Conclusions: NCC imposes a substantial burden on public health and the economy in Uganda with poor attention given to this public health problem. Increased awareness among governments, international agencies, and general public, as well as targeted intervention studies using a One Health approach are needed to reduce the significant burden of NCC in Uganda.

34. Am J Trop Med Hyg. 2022 Jan 10;tpmd210673. Online ahead of print.

Melioidosis in Africa: Time to Raise Awareness and Build Capacity for Its Detection, Diagnosis, and Treatment

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Melioidosis is a tropical infectious disease caused by the soil-dwelling bacterium Burkholderia pseudomallei with a mortality of up to 50% in low resource settings. Only a few cases have been reported from African countries. However, studies on the global burden of melioidosis showed that Africa holds a significant unrecognized disease burden, with Nigeria being at the top of the list. The first World Health Organization African Melioidosis Workshop was organized in Lagos, Nigeria, with representatives of health authorities, microbiology laboratories, and clinical centers from across the continent. Dedicated hands-on training was given on laboratory diagnostics of B. pseudomallei. This meeting report summarizes the objectives discussed, such as raising awareness on melioidosis and building capacity for the detection, diagnosis, biosafety, treatment, and prevention of this dreadful neglected disease across Africa by bringing together regional and international experts to

share best practices. It is important to join forces with the African Centers for Disease Control, WHO, African Sepsis Alliance, and Antimicrobial Resistance action plans.

35. Am J Trop Med Hyg. 2021 Dec 20;tpmd210731. Online ahead of print.

Impact of Semi-Annual Albendazole on Lymphatic Filariasis and Soil-Transmitted Helminth Infection: Parasitological Assessment after 14 Rounds of Community Treatment

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Between October 2012 and October 2015, we conducted a community trial to assess the impact of semi-annual (twice yearly) community treatment with albendazole on lymphatic filariasis in Seke Pembe, a village in the Republic of the Congo. Semi-annual community treatment with albendazole has been continued in the community since October 2015. We conducted an additional parasitological assessment survey in October 2019, 6 months after the 14th round of semi-annual treatment. Between October 2012 and October 2015, Wuchereria bancrofti antigenemia and microfilaremia rates in the community had decreased from 17.3% to 4.7% and from 5.3% to 0.3%, respectively. In October 2019, the antigenemia rate had decreased further to 2.8% (19 of 687). No microfilariae were found in night blood smears from persons with circulating filarial antigenemia (0 of 16), suggesting that W. bancrofti transmission has been interrupted in Seke Pembe. Semi-annual albendazole treatments also reduced significantly infection rates with soil-transmitted helminths.

36. TMIH 2022;27(2):129-36 Review

Are national treatment guidelines for falciparum malaria in line with WHO recommendations and is antimalarial resistance taken into consideration? - A review of guidelines in non-endemic countries

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Objective: Plasmodium falciparum infections are a relatively rare but potentially deadly disease found in returning travellers. We compare the national treatment guidelines of non-endemic countries with the WHO guidelines for the treatment of Plasmodium falciparum infections.
Methods: Review. We identified non-endemic countries with an incidence rate of imported malaria of at least one per 100,000 population and at least 50 cases annually. Using PubMed and Google Search, we reviewed national guidelines published before 1 March 2021.
Results: Thirteen guidelines were identified. For uncomplicated falciparum malaria, 11 of 13 countries (85%) recommend an artemisinin-based combination therapy as first-line regimen in adults, of which artemether-lumefantrine was the most common. For severe malaria, all guidelines recommend the use of intravenous artesunate. Only three countries adjust treatment recommendations based on expected artemisinin resistance.
Conclusion: Treatment guidelines for uncomplicated falciparum malaria in non-endemic countries generally adhere to WHO recommendations but often fail to mention the risk of drug resistance in returning travellers. Artemisinin-based Combination Therapies (ACTs) should be the first choice for all uncomplicated malaria cases. Furthermore, the choice between ACTs should be based on regional resistance patterns.

37. PLoS Med 18(10), 2021: e1003841.

Unmet need for hypercholesterolemia care in 35 low- and middle-income countries: A cross-sectional study of nationally representative surveys.

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Background
As the prevalence of hypercholesterolemia is increasing in low- and middle-income countries (LMICs), detailed evidence is urgently needed to guide the response of health systems to this epidemic. This study sought to quantify unmet need for hypercholesterolemia care among adults in 35 LMICs.
Methods and findings
We pooled individual-level data from 129,040 respondents aged 15 years and older from 35 nationally representative surveys conducted between 2009 and 2018. Hypercholesterolemia care was quantified using cascade of care analyses in the pooled sample and by region, country income group, and country. Hypercholesterolemia was defined as (i) total cholesterol (TC) ≥240 mg/dL or self-reported lipid-lowering medication use and, alternatively, as (ii) low-density lipoprotein cholesterol (LDL-C) ≥160 mg/dL or self-reported lipid-lowering medication use. Stages of the care cascade for hypercholesterolemia were defined as follows: screened (prior to the survey), aware of diagnosis, treated (lifestyle advice and/or medication), and controlled (TC <200 mg/dL or LDL-C <130 mg/dL). We further estimated how age, sex, education, body mass index (BMI), current smoking, having diabetes, and having hypertension are associated with cascade progression using modified Poisson regression models with survey fixed effects.
High TC prevalence was 7.1% (95% CI: 6.8% to 7.4%), and high LDL-C prevalence was 7.5% (95% CI: 7.1% to 7.9%). The cascade analysis showed that 43% (95% CI: 40% to 45%) of study participants with high TC and 47% (95% CI: 44% to 50%)

with high LDL-C ever had their cholesterol measured prior to the survey. About 31% (95% CI: 29% to 33%) and 36% (95% CI: 33% to 38%) were aware of their diagnosis; 29% (95% CI: 28% to 31%) and 33% (95% CI: 31% to 36%) were treated; 7% (95% CI: 6% to 9%) and 19% (95% CI: 18% to 21%) were controlled. We found substantial heterogeneity in cascade performance across countries and higher performances in upper-middle-income countries and the Eastern Mediterranean, Europe, and Americas. Lipid screening was significantly associated with older age, female sex, higher education, higher BMI, comorbid diagnosis of diabetes, and comorbid diagnosis of hypertension. Awareness of diagnosis was significantly associated with older age, higher BMI, comorbid diagnosis of diabetes, and comorbid diagnosis of hypertension. Lastly, treatment of hypercholesterolemia was significantly associated with comorbid hypertension and diabetes, and control of lipid measures with comorbid diabetes. The main limitations of this study are a potential recall bias in self-reported information on received health services as well as diminished comparability due to varying survey years and varying lipid guideline application across country and clinical settings.
Conclusions
Cascade performance was poor across all stages, indicating large unmet need for hypercholesterolemia care in this sample of LMICs—calling for greater policy and research attention toward this cardiovascular disease (CVD) risk factor and highlighting opportunities for improved prevention of CVD.

38. N Engl J Med 2022; 386:428-436

Mosquito Net Use in Early Childhood and Survival to Adulthood in Tanzania

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BACKGROUND
It has been hypothesized that in high-transmission settings, malaria control in early childhood (<5 years of age) might delay the acquisition of functional immunity and shift child deaths from younger to older ages.
METHODS
We used data from a 22-year prospective cohort study in rural southern Tanzania to estimate the association between early-life use of treated nets and survival to adulthood. All the children born between January 1, 1998, and August 30, 2000, in the study area were invited to enroll in a longitudinal study from 1998 through 2003. Adult survival outcomes were verified in 2019 through community outreach and mobile telephones. We used Cox proportional-hazards models to estimate the association between the use of treated nets in early childhood and survival to adulthood, adjusting for potential confounders.
RESULTS
A total of 6706 children were enrolled. In 2019, we verified information on the vital status of 5983 participants (89%). According to reports of early-life community outreach visits, approximately one quarter of children never slept under a treated net, one half slept under a treated net some of the time, and the remaining quarter always slept under a treated net. Participants who were reported to have used treated nets at half the early-life visits or more had a hazard ratio for death of 0.57 (95% confidence interval [CI], 0.45 to 0.72) as compared with those who were reported to have used treated nets at less than half the visits. The corresponding hazard ratio between 5 years of age and adulthood was 0.93 (95% CI, 0.58 to 1.49).
CONCLUSIONS
In this long-term study of early-life malaria control in a high-transmission setting, the survival benefit from early-life use of treated nets persisted to adulthood.

Sexual Reproductive Health

39. TMIH 2021;26(11):1345-55 Review

Adolescent Health Series: HPV infection and vaccination in sub-Saharan Africa: 10 years of research in Tanzanian female adolescents - narrative review

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Cervical cancer is the leading cause of cancer-related morbidity and mortality in many sub-Saharan African (SSA) countries, including Tanzania. Most cervical cancer cases worldwide are attributable to infection of the cervix with Human Papillomavirus (HPV), a vaccine-preventable sexually transmitted infection (STI). Over the past 10 years, we have conducted a programme of HPV research in pre-adolescents and adolescents in Mwanza, the second-largest city in Tanzania, which is situated in a malaria-endemic region. In this narrative review article, we summarise the contribution of our work, alongside work of others, to improve the understanding of HPV epidemiology in SSA and development of setting-appropriate, evidence-based intervention strategies. We present evidence for very high prevalence and incidence of HPV infection among female SSA adolescents around the time of sexual debut, describe risk factors for HPV acquisition, and discuss associations between HPV, HIV and other STIs, which are also highly prevalent within this population. We summarise findings from early clinical trials of HPV vaccines in SSA, the first of which was an immunogenicity and safety trial conducted in Mwanza, Tanzania, and Dakar, Senegal. Within the trial, we evaluated for the first time the potential impact of malaria and helminth infection on vaccine-induced antibody responses in Tanzanian girls. We describe research evaluating optimal HPV vaccine delivery strategies within this setting, perceived requirements for and barriers to vaccine implementation

among key informants from LMIC, vaccine acceptability among girls and parents, and opportunities for co-delivery of interventions alongside HPV vaccination to an adolescent population. Finally, we discuss country-level barriers to vaccine uptake in LMIC, and ongoing studies in Tanzania and other SSA countries of reduced-dose HPV vaccination

40. BMJ Global Health 2022;7:e008063. Original research

'We are not going to shut down, because we cannot postpone pregnancy': a mixed-methods study of the provision of maternal healthcare in six referral maternity wards in four sub-Saharan African countries during the COVID-19 pandemic

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Abstract

Introduction Referral hospitals in sub-Saharan Africa are located in crowded urban areas, which were often epicentres of the COVID-19 pandemic. This paper prospectively assesses how maternal healthcare was provided in six referral hospitals in Guinea, Nigeria, Tanzania and Uganda during the first year of the COVID-19 pandemic.

Methods. Mixed-methods design using three data sources: (1) qualitative data from repeated rounds of semi-structured interviews conducted between July 2020 and February 2021 with 22 maternity skilled heath personnel (SHP) on perceptions of care provision; (2) quantitative monthly routine data on caesarean section and labour induction from March 2019 to February 2021; and (3) timeline data of COVID-19 epidemiology, national and hospital-level events. Qualitative and quantitative data were analysed separately, framed based on timeline analysis, and triangulated during reporting.

Result.s We identified three periods: first wave, slow period and second wave. The first wave was challenging for SHP given little knowledge about COVID-19, lack of infection prevention and control training, and difficulties reaching workplace. Challenges that persisted beyond the first wave were shortage of personal protective equipment and no rapid testing for women suspected with COVID-19. We noted no change in the proportion of caesarean sections during the pandemic, and a small increase in the proportion of labour inductions. All hospitals arranged isolation areas for women suspected/confirmed with COVID-19 and three hospitals provided care to women with suspected/confirmed COVID-19. Breastfeeding was not discouraged and newborns were not separated from mothers confirmed with COVID-19. Care provision was maintained through dedication of SHP, support from hospital management and remote communication between SHP.

Conclusion. Routine maternal care provision was maintained in referral hospitals, despite first wave challenges. Referral hospitals and SHP contributed to guideline development for pregnant women suspected/confirmed with COVID-19. Maternity SHP, women and pregnancy must always be included in priority setting when responding to health system shocks, including outbreaks.

41. BMJ Global Health 2022;7:e006872. Original research

Enhancing quality midwifery care in humanitarian and fragile settings: a systematic review of interventions, support systems and enabling environments

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Abstract

Introduction. Women and children bear a substantial burden of the impact of conflict and instability. The number of people living in humanitarian and fragile settings (HFS) has increased significantly over the last decade. The provision of essential maternal and newborn healthcare by midwives is crucial everywhere, especially in HFS. There is limited knowledge about the interventions, support systems and enabling environments that enhance midwifery care in these settings. The aim of this paper is to identify the factors affecting an enabling environment for midwives in HFS and to explore the availability and effectiveness of support systems for midwives.

Methods. A structured systematic review was undertaken to identify peer-reviewed primary research articles published between 1995 and 2020.

Results. In total, 24 papers were included from Afghanistan, Bangladesh, Nigeria, Democratic Republic of Congo, South Sudan and Sudan, Ethiopia, Pakistan, Uganda and Liberia. There were two broad themes: (1) the facilitators of, and barriers to, an enabling environment, and (2) the importance of effective support systems for midwives. Facilitators were: community involvement and engagement and an adequate salary, incentives or benefits. Barriers included: security and safety concerns, culture and gender norms and a lack of infrastructure and supplies. Support systems were: education, professional development, supportive supervision, mentorship and workforce planning.

Conclusion. More efforts are needed to develop and implement quality midwifery services in HFS. There is an urgent need for more action and financing to ensure better outcomes and experiences for all women, girls and families living in these settings.

42. Am J Trop Med Hyg. 2022 Jan 17;tpmd210727. Online ahead of print.

The Effect of Healthcare Worker Density on Maternal Health Service Utilization in Sub-Saharan Africa

Joelle I Rosser et al.,

Facility births and antenatal care (ANC) are key to improving maternal health. This study evaluates the relationship between physician and nurse/midwife densities and the use of key maternal health services across sub-Saharan Africa (SSA). The authors matched individual-level maternal health service indicators from Demographic and Health Surveys between 2008

and 2017, to country-level physician and nurse/midwife per-capita densities, across 35 SSA countries. The authors performed univariate and multivariate probit regression analyses to evaluate the association between healthcare worker (HCW) densities and facility births as our primary outcome and with additional ANC services as secondary outcomes. We controlled for established maternal health predictors, including literacy, child marriage, reported problems accessing healthcare, GDP per capita, political instability, and government effectiveness scores. HCW density across SSA was low at 0.13 physicians and 0.91 nurses/midwives per 1,000 people, compared with 2010 worldwide mean densities of 1.33 and 3.07, respectively. The probability of facility birth increased by 9.8% (95% CI: 2.1-17.5%) for every additional physician per 1,000 people and 8.9% (95% CI: 7.1-9.7%) for every additional nurse/midwife per 1,000 people. HCW densities were also associated with increased likelihood of ANC by the respective provider type, and with antenatal testing for preeclampsia (urine and blood pressure checks). Other ANC services demonstrated variable relationships with HCW densities based on provider type. In 35 SSA countries, HCW density was positively associated with many key measures of maternal health service utilization including facility birth and ANC testing for preeclampsia.

43. Health Policy and Planning, 2021, Vol 36 (9): 1362 – 1370

Abortion quality of care from the client perspective: a qualitative study in India and Kenya

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Quality healthcare is a key part of people's right to health and dignity, yet access to high-quality care can be limited by legal, social and economic contexts. There is limited consensus on what domains constitute quality in abortion care and the opinions of people seeking abortion have little representation in current abortion quality measures. In this qualitative study, we conducted 45 interviews with abortion clients in Mumbai, India, and in Eldoret and Thika, Kenya, to assess experiences with abortion care, definitions of quality and priorities for high-quality abortion care. Among the many aspects of care that mattered to clients, the client–provider relationships emerged as essential. Clients prioritized being treated with kindness, respect and dignity; receiving information and counselling that was personalized to their individual situation and reassurance and support from their provider throughout the entire abortion process, including follow-up after the abortion. Many clients also noted the importance of skilled providers and appropriate care. There were similarities across the two country contexts, yet there were some differences in how clients defined high-quality care; therefore, specific political and cultural influences must be considered when implementing measurement and improving person-centred quality of care. These domains, particularly interpersonal interactions, should be prioritized in India and Kenya when health systems, facilities and providers design person-centred measures for quality in abortion care.

44. Health Policy and Planning, 2021, Vol 36 (9): 1441 – 1450

'I was trying to get there, but I couldn't': social norms, vulnerability and lived experiences of home delivery in Mashonaland Central Province, Zimbabwe

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Increasing facility-based delivery rates is pivotal to reach Sustainable Development Goals to improve skilled attendance at birth and reduce maternal and neonatal mortality in low- and middle-income countries (LMICs). The translation of global health initiatives into national policy and programmes has increased facility-based deliveries in LMICs, but little is known about the impact of such policies on social norms from the perspective of women who continue to deliver at home. This qualitative study explores the reasons for and experiences of home delivery among women living in rural Zimbabwe. We analysed qualitative data from 30 semi-structured interviews and 5 focus group discussions with women who had delivered at home in the previous 6 months in Mashonaland Central Province. We found evidence of strong community-level social norms in favour of facility-based delivery. However, despite their expressed intention to deliver at a facility, women described how multiple, interacting vulnerabilities resulted in delivery outside of a health facility. While identified as having delivered 'at home', narratives of birth experiences revealed the majority of women in our study delivered 'on the road', en route to the health facility. Strong norms for facility-based delivery created punishments and stigmatization for home delivery, which introduced additional risk to women at the time of delivery and in the postnatal period. These consequences for breaking social norms promoting facility-based delivery for all further increased the vulnerability of women who delivered at home or on the road. Our findings highlight that equitable public health policy and programme designs should include efforts to actively identify, mitigate and evaluate unintended consequences of social change created as a by-product of promoting positive health behaviours among those most vulnerable who are unable to comply.

45. Health Policy and Planning, 2021, Vol 36 (10): 1499 – 1507

Combatting the imbalance of sex ratio at birth: medium-term impact of India's National Programme of Beti Bachao Beti Padhao in the Haryana State of India

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The Government of India initiated the Beti Bachao Beti Padhao (B3P) programme in 2015 as a flagship initiative to reduce gender imbalance in sex ratio at birth (SRB) and to ensure social protection of girls. The present study was conducted to

evaluate the medium-term impact of B3P implementation in Haryana state, from 2015 to 2019, on SRB. Monthly data on SRB were collected for the entire state of Haryana through a civil registration system. Segmented time series regression analysis was used to estimate the variations in SRB after the B3P programme with the help of Winter's additive interrupted time series model. The SRB in Haryana increased from 876 girls per 1000 boys in 2015 to 923 in 2019. The results of the model demonstrated that before the inception of intervention (pre-slope), there was a significant monthly change in SRB of 0.217 (95% confidence interval: 0.144–0.290). Following the B3P programme, SRB was found to increase by 0.835 per month, which implied that an increase of 0.618 (confidence interval: 0.338, 0.898) every month in SRB can be attributed to the B3P programme. This indicated that SRB for the state of Haryana increased at the rate of 7.42 units per year as a result of the B3P programme. B3P has led to a significant improvement in SRB in Haryana state. The continuity of efforts in the same direction with a sustained focus on behaviour change will further help achieve the goal of gender parity in births and child survival.

46. PLoS Med 18(10): e1003792.

Cesarean section: More than a maternal health issue. - PERSPECTIVE

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A cesarean section (CS) can be a lifesaving intervention when medically indicated, but it may also lead to adverse short- and long-term health effects for women and children.

Therefore, the accompanying research study by Paixao and colleagues published in PLOS Medicine, looking at CS and associated child mortality in Brazil, provides further valuable evidence on the balance of benefits and risks.

CS rates are rising worldwide: Boerma and colleagues, on the basis of data from 169 countries including 98.4% of the world's births, estimated that 29.7 million (21.1%) births occurred by CS in 2015, almost double the number of CS births in 2000 (16.0 million, 12.1%). In a further study investigating CS rates in specific obstetric populations using the Robson system, which classifies all deliveries into one of 10 groups on the basis of 5 parameters: obstetric history, onset of labour, foetal lie, number of neonates, and gestational age, there was an increase of CS across most Robson groups, especially after induction of labour in multiparous women.

WHO guidance is clear that CS is essential for those who need it, specifying a recommended rate of 10% to 15% to improve maternal and perinatal outcomes and prevent maternal and neonatal mortality and morbidity. Yet, given the increasing use of CS, particularly without medical indication, a more complete understanding of its health effects on women and children has become crucial. The maternal sequelae of CS are well described, while long-term consequences for child health require more research. There is emerging evidence that babies born by CS have different hormonal, physical, bacterial, and medical exposures and that these exposures can subtly alter neonatal physiology. Short-term risks (within 3 years) of CS can include altered immune development; an increased likelihood of allergy, atopy, and asthma; and reduced intestinal gut microbiome diversity. In a systematic review, CS was found to be a risk factor for respiratory tract infections (pooled odds ratio (OR) = 1.30 for asthma) as well as for obesity (pooled OR = 1.35) in children. In a further study including 327,272 neonates born by vaginal delivery and 55,246 by elective CS investigating neonatal respiratory morbidity in relation to mode of delivery, there was a 95% higher risk in neonates delivered by elective CS than in neonates born by spontaneous vaginal delivery. Further, Alterman and colleagues described a moderately elevated risk of severe lower respiratory tract infections during infancy in infants born by planned CS, as compared to those born vaginally. Infants born by planned or emergency CS may also be at a small increased risk of severe upper respiratory tract infections, with a stronger estimated effect if including the indirect effect arising from planning the cesarean birth for an earlier point in gestation than would have occurred spontaneously. However, the extent to which CS, in particular nonmedically indicated CS, benefits or reduces child survival remains unclear.

Therefore, Paixao and colleagues conducted a population-based cohort study in Brazil by linking routine data on live births from 2012 to 2018 and assessing mortality up to 5 years of age. Women with a live birth were classified into a Robson group based on pregnancy and delivery characteristics. The analysis of 17,838,115 live births showed that live births to women with low expected frequencies of CS (Robson groups 1 to 4) had a higher death rate up to age 5 years compared with vaginal deliveries (HR = 1.25, 95% CI: 1.22 to 1.28; $p < 0.001$). This means that CS was associated with a 25% increase in child mortality in infants born via CS in Robson groups with low expected frequencies of CS (i.e., low-risk mothers). In groups with high expected frequencies of CS (i.e., high-risk mothers), mortality rates were lower among infants born via CS, supporting the benefits of clinically indicated CS.

This large study shows how important it is to optimise the use of CS, which is increasingly overused leading to global concern. Underuse of CS leads to maternal and perinatal mortality and morbidity, and yet, conversely, overuse of CS has not shown benefits and can create harm. As the frequency of CS continues to increase, interventions to reduce unnecessary CS are urgently needed. As described by Betrán and colleagues, many factors can affect rates of CS, and these may be associated with women, families, health professionals, and healthcare organisations and systems, being influenced by behavioural, psychosocial, health system, and financial factors. These authors concluded that interventions to reduce overuse of CS must be multicomponent and locally tailored, addressing women's and health professionals' concerns, as well as reflecting health system and financial factors.

Paixao and colleagues' study provides evidence that either overuse or underuse of CS is associated with child survival, and the findings will help pregnant women and their providers to make informed decisions as to whether CS is appropriate for them. The authors should be commended for carrying out this big data record linkage study, which paves the way for further analyses to study risk profiles using other available population-level data. At a health policy level, the paper shows

the significant challenge to child population health that the sequelae of low-risk CS pose, especially in countries with high CS rates such as Brazil at 56%. This represents an avoidable threat to some of the gains to child mortality and morbidity seen over the past few decades and to the achievement of the UN's Sustainable Development Goal 3 to ensure health and well-being at all ages. Policymakers and civil society groups should take note and act by implementing the recommendations of the 2018 International Federation of Gynaecology and Obstetrics (FIGO) position paper, calling for "joint actions with health professionals, governmental bodies, women's groups and the healthcare insurance industry to stop unnecessary caesarean sections".

47. PLoS Med 18(12): e1003843

Hospital delivery and neonatal mortality in 37 countries in sub-Saharan Africa and South Asia: An ecological study.

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Background
Widespread increases in facility delivery have not substantially reduced neonatal mortality in sub-Saharan Africa and South Asia over the past 2 decades. This may be due to poor quality care available in widely used primary care clinics. In this study, we examine the association between hospital delivery and neonatal mortality.
Methods and findings
We used an ecological study design to assess cross-sectional associations between the share of hospital delivery and neonatal mortality across country regions. Data were from the Demographic and Health Surveys from 2009 to 2018, covering 682,239 births across all regions. We assess the association between the share of facility births in a region that occurred in hospitals (versus lower-level clinics) and early (0 to 7 days) neonatal mortality per 1,000 births, controlling for potential confounders including the share of facility births, small at birth, maternal age, maternal education, urbanicity, antenatal care visits, income, region, and survey year. We examined changes in this association in different contexts of country income, global region, and urbanicity using interaction models.
Across the 1,143 regions from 37 countries in sub-Saharan Africa and South Asia, 42%, 29%, and 28% of births took place in a hospital, clinic, and at home, respectively. A 10-percentage point higher share of facility deliveries occurring in hospitals was associated with 1.2 per 1,000 fewer deaths (p-value < 0.01; 95% CI: 0.82 to 1.60), relative to mean mortality of 22. Associations were strongest in South Asian countries, middle-income countries, and urban regions. The study's limitations include the inability to control for all confounding factors given the ecological and cross-sectional design and potential misclassification of facility levels in our data.
Conclusions
Regions with more hospital deliveries than clinic deliveries have reduced neonatal mortality. Increasing delivery in hospitals while improving quality across the health system may help to reduce high neonatal mortality.

Other

48. BMJ 2021;375:n2644 Feature Essay

WHO in its present form is not fit for purpose—an essay by Anthony Costello

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The World Health Organization is needed now more than ever, but it is handcuffed by lack of funds and a structure that leaves it vulnerable to politics. These problems can be fixed, and must be urgently, writes Anthony Costello
Debate about the future for the World Health Organization (WHO) has never been more important. The Economist estimates that the covid-19 pandemic has killed up to 18.2 million people. The economic crisis induced by the pandemic is a terrible setback to health, development, and poverty alleviation. The International Monetary Fund suggests $22tn (£16tn; €19tn) will be lost in the period 2020-25—the deepest shock to the global economy since the second world war and the largest contraction of national economies since the Great Depression. Up to 125 million people have been pushed into extreme poverty.
WHO faces enormous and growing challenges: covid-19, vaccine apartheid, emerging infections, increased food emergencies, disruption to health systems, a pandemic of non-infectious conditions such as obesity, cardiovascular disease, diabetes, and mental ill health, and the objective of universal health coverage, to say nothing of the routine plagues of HIV, tuberculosis, malaria, and childhood pneumonia. Above all, WHO must respond to a deteriorating climate crisis, the greatest global health threat in our century, which imperils the future of our children and young people.
But WHO in its present form is not fit to meet these challenges. It needs systemic reform to build the confidence of citizens and states around the world, to attract funds, and to build global scientific networks.
Firstly, a new, permanent and independent executive board from member states should be resident in Geneva to hold WHO accountable and incentivise new funding. It would restore the engagement of powerful member states with WHO and replace the current system of assistant director generals (who are appointed by the director general). The largest donor countries should be represented on this permanent body. Political appointees should no longer be involved in the management of WHO directors and scientific processes. WHO funding could more than double as a result of greater confidence among donor nations.

Secondly, there should be a clear split in the political and technical functions of WHO. The director general should manage the political and diplomatic functions, such as support for regional offices, relations with member states, and management of emergency responses.
The director general's secretariat could coordinate annual accountability to member states at the World Health Assembly, not only of WHO but of all UN health activities (World Bank, Global Fund, UNDP, UNAIDS, Unicef, and others). Accountability is fragmented. These other bodies are often accountable to unelected boards, yet they spend large amounts of taxpayer money. The director general should be elected by secret ballot of member states and should serve a single seven year term as recommended by the recent Independent Review.
An independent WHO scientific director should oversee the science and norms of the organisation, including research, collection and analysis of global health data, the development of global and regional disease control and prevention networks, evaluation of country programmes, and WHO research groups. The person should not be a political appointee but an internationally distinguished scientist, competitively selected, with strong experience in effective senior administration, and a commitment to build or strengthen networks of scientific excellence globally, in Geneva and in each of the six regions.
Finally, WHO must strengthen regional centres with expanded mobility of staff. Its current regional structure is commendably devolved, but suffers from a lack of mobility and limited funding. Member states in the regions usually lobby for WHO appointments from their own ministry and/or politically connected officials. Regional directors are elected, not appointed by the director general, so—being dependent upon regional country votes for re-election—they are incentivised to employ people only from the region. With little movement between regions, or even from Geneva to regional or country offices (unlike organisations such as Unicef, where appointments are made from the centre), parochial thinking and local nepotism are major risks.

49. Lancet 2021;389(10317):2125 Editorial

Preventing violence against women: beyond 16 days

For too long violence against women has been positioned as a domestic issue, deflecting attention from the fundamental gender disparities in society as a whole that facilitate and tolerate it. The Lancet Commission Countering the Pandemic of Gender-based Violence and Maltreatment of Young People is working to bring an intersectional and interdisciplinary, gender- identity inclusive, all-of-society approach to understand such violence and how societal norms play a role. The Commission seeks to advance an agenda to address gender-based violence, to review both the economic and health costs, to show the urgency to act, and to recommend effective policies and tools that can be rapidly scaled up.
There has been a systemic failure to address violence against women and girls on a global, national, and local level. Violence against women is rising—yet the disconnect between structural discrimination and the violent killing of women continues. The relation between cyberviolence and the spill over into physical repercussions goes unchallenged. Women reporting violence are dismissed or penalised. After each tragic incident, each violent death, each sexual attack, there is shock and sadness, yet no challenge to social structures at the level of legislation, policy, provision of services, including health and education for women and children, and cultural gender norms that maintain violence against women. Gender-based violence is preventable, but only when it is recognised as an inevitable outcome of the concentration of power and wealth in male hands can the fundamental changes be made that will keep women and girls free from harassment and discrimination. When women are excluded and marginalised from positions of power, gender-based violence is tolerated, normative, and thus abetted. Embedding women and their rights in decision making—creating gender equity—is the only way to stop this.

50. Lancet 2021;399(10323):411 Editorial

Neglected tropical diseases: ending the neglect of populations

2022 sees the tenth anniversary of the London Declaration on Neglected Tropical Diseases (NTDs), a pivotal event at which governments, pharmaceutical companies, foundations, and NGOs committed to collaborate in their efforts to stop NTDs. This initiative was inspired by the WHO NTD Roadmap 2012–2020, a plan for the control, elimination, and eradication of 17 neglected tropical diseases by 2020. Not all of the targets were met, but much progress has been made. In 2020, 600 million fewer people required interventions against NTDs than in 2010, and 42 countries eliminated at least one NTD. But controlling this diverse group of 20 conditions, which affect 20% of the world's population, will require attention to neglected populations, not just neglected diseases. The agenda to end NTDs has an important role in reducing poverty and prioritising the needs and rights of underserved populations in countries across the income spectrum. The production of a new Roadmap, and the emergence of new challenges to NTDs, make this World NTD Day, on Jan 30, an important opportunity to reconsider and revitalise this agenda.
The ambitious WHO NTD Roadmap 2021–2030 calls for infrastructure and the health-care workforce to be strengthened to ensure that patients can receive primary care, even in remote areas. There is also a demand for a One Health approach and stronger collaboration across sectors such as health, water, sanitation and hygiene, education, and food safety.
These changes will require a shift towards country ownership of NTD programmes.
The COVID-19 pandemic has been an unprecedented setback to the NTD agenda. It has disproportionately made life worse for neglected populations, not only increasing poverty globally but also directly affecting NTD interventions. A WHO survey reported that NTD services have been frequently and severely impacted by COVID-19 and that disruptions occurred in 44%

of countries. Modelling has shown that trachoma, schistosomiasis, and visceral leishmaniasis are the most affected NTDs, demanding the implementation of more intensive intervention strategies. Doing so will require a shift from one-size-fits-all approaches to innovative data-driven and targeted efforts tailored to local epidemiology, health systems, infrastructure, and resources. However, according to the G-FINDER project, research and development for NTDs has been stagnant for decades, and receives far less funding compared with, for example, HIV, malaria, and tuberculosis. The USA, UK, and EU have been major donors, but wealthy countries with endemic NTDs must contribute more.

The new Roadmap is an ambitious step in the right direction, and success would bring wide-reaching benefits. But it requires new ways of working that will not be easy to implement, as well as commitment and funding far beyond what has come before.