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26.Emerg Infect Dis. 2024 Mar;30(3):490-498.
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50.Emerg Infect Dis. 2024 Mar;30(3):568-571. Bedaquiline Resistance after Effective Treatment of Multidrug-Resistant Tuberculosis, Namibia

51.BMJ Global Health 2024;9:e014722. Editorial Incarceration and TB: the epidemic beyond prison walls

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52.Health Policy and Planning, Jan 2024, Vol 39 (1): 4-21 The redistributive effect of the public health system: the case of Sierra Leone

53.Health Policy and Planning Vol 39, Issue Supplement_1, January 2024 Rethinking External Assistance for Health, Editorial abridged.

54.Health Policy and Planning, March 2024, Vol 39 (2): 224-232 First referral hospitals in low- and middle-income countries: the need for a renewed focus

55.BMJ Global Health 2024;9:e014140. Original research Data-driven decision-making for district health management: a cluster-randomised study in 24 districts of Ethiopia

International Health Alerts 2024-1 Abstracts

Sexual Reproductive Health and Rights

1. Lancet Glob Health 2024 Jan;12(1):e1.

Editorial Postnatal morbidity: prevalent, enduring, and neglected

According to a 2023 report, a woman dies from preventable causes related to pregnancy and childbirth every 2 mins, and almost 95% of maternal deaths occur in low-income and middle-income countries (LMICs). Death is, of course, the most severe possible obstetric outcome, and the unacceptably high mortality rates must be addressed urgently. However, death is not the only concern.

On Dec 6, with eClinicalMedicine, we co-published a Series of papers on Maternal Health in the Perinatal Period and Beyond. The third paper, a global systematic analysis, found an alarmingly high prevalence of morbidity directly arising from pregnancy or childbirth that persists beyond 6 weeks. Pain during sexual intercourse (dyspareunia) is most prevalent, affecting more than a third (35%) of women beyond the customary postnatal period of 6 weeks. But low back pain (32%), anal incontinence (19%), urinary incontinence (8–31%), anxiety (9–24%), depression (11–17%), perineal pain (11%), fear of childbirth (tokophobia; 6–15%), and secondary infertility (11%) all affected notably high proportions of birthing parents (herein referred to as women, for brevity, but acknowledging that pregnancy can occur in adolescents, transgender men, and gender-diverse individuals). Other conditions—such as pelvic organ prolapse, post-traumatic stress disorder, and HIV seroconversion—were less prevalent but can have severe impacts on women's health and wellbeing.

This Series ambitiously aims to prompt a paradigm shift in maternal health. The current dictum from health authorities is that the 6 weeks after birth constitute the postnatal period. This timeframe is too short, and it does a huge disservice to women who still experience the effects of pregnancy and childbirth months, years, or even decades later, but who have felt abandoned by health services that no longer include them in postnatal care.

Other articles in the series: Maternal Health in the Perinatal Period and Beyond

A global analysis of the determinants of maternal health and transitions in maternal mortality

Souza et al.The Lancet Global Health

Vulnerabilities and reparative strategies during pregnancy, childbirth, and the postpartum period: moving from rhetoric to action

Sheikh et al. eClinicalMedicine

Neglected medium-term and long-term consequences of labour and childbirth: a systematic analysis of the burden, recommended practices, and a way forward

Vogel et al. The Lancet Global Health

Towards a better tomorrow: addressing intersectional gender power relations to eradicate inequities in maternal health

Bohren et al. eClinicalMedicine

2. TMIH 2024;29(2):144-51 doi: 10.1111/tmi.13959

Fertility desires and sexual behaviours among women recovering from genital fistula repair in Eldoret, Kenya

Wilson SF et al., Capital Ob Gyn, Sacramento, California, USA

Objectives: The reproductive desire of women following genital fistula repair surgery is complex, varied and often not addressed, although it carries significant consequences. The aim of this study was to better understand the fertility desires and sexual behaviours of women who recently underwent surgical repair of a genital fistula.

Methods: This is a secondary analysis of a retrospective cohort study designed to assess the effectiveness of Beyond Fistula, a reintegration programme for women recovering from genital fistula surgery in Eldoret, Kenya. One hundred women who participated in the Beyond Fistula programme between 2013 and 2019 were interviewed in person regarding future fertility desire, current sexual behaviour and contraceptive use.

Results: Among the 79 reproductive-aged women included in this study, 63.3% reported no future desire for pregnancy. Those that desired another pregnancy were significantly younger (48.3% were 18-29 years old vs. 66.0% were 35 years old or more, $p = 0.004$), had fewer living children (70% had 0-2 children vs. 56% had 3 or more children, $p < 0.001$), and a lower level of food insecurity (27.6% reported no to marginal insecurity vs. 14%, $p = 0.014$). Current sexual activity was marginally different between women who did and did not desire future pregnancy (82.8% vs. 66.0%, $p = 0.053$). Of the 50 women in our study who did not desire pregnancy, 62.0% were sexually active and of these, only 38.7% were preventing pregnancy. Lack of knowledge and access to methods were most commonly cited as barriers to use.

Conclusions: Many women recovering from genital fistula surgery do not desire pregnancy and are sexually active but are not using a method to prevent pregnancy. The potential for post-surgical reintegration programmes to address education and access to contraception is a vital and unmet need to promote reproductive empowerment in this population of women as they reestablish their lives.

3. Health Policy and Planning, Jan 2024, Vol 39 (1): 32-43

Assessing midwifery services in Iran via the balanced scorecard framework

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This study investigates the impact of intra-organizational information, midwife job satisfaction and performance assessment on the quality of midwife services. The questions are empirically tested with survey data obtained from 276 midwives, specialist doctors and nurses, and mothers who recently gave birth in a cross-section of Iranian public healthcare organizations. The results from a structural equation model suggest that an improved performance assessment system leads to higher quality midwife services. In addition, the results indicate that midwife job satisfaction and intra-organizational information increases the quality of midwife services, both directly and indirectly, through the mediating effect of a performance assessment system. Our study contributes to the growing research exploring the interface between accounting and health issues by recognizing the importance of a performance assessment system of midwifery services via the balanced scorecard framework for understanding the quality of midwife services.

4. Health Policy and Planning, Jan 2024, Vol 39 (1): 87-93

Getting ready for reduced donor dependency: the co-financing of family planning commodities

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Family planning (FP) programmes in low and lower-middle income countries are confronting the dual impact of reduced external donor commitments and stagnant or reduced domestic financing, worsened by economic consequences of the COVID-19 pandemic. Co-financing—a donor-government agreement to jointly fund aspects of a programme, with transition towards the government assuming increasing responsibility for total cost—can be a powerful tool to help build national ownership, fiscal sustainability and programme visibility. Using Gavi's successful co-financing model as reference, the current paper draws out a set of key considerations for developing policies on co-financing of FP commodities in resource-poor settings. Macroeconomic and contextual sensitivities must be incorporated while classifying countries and determining co-financing obligations—using the actual GNI per capita on a scale or sovereign credit ratings, in conjunction with programmatic indicators, may be preferred. It is also important for policies to allow sufficiently long time for countries to transition—dependent on the country context, may be up to 10 years as allowed under the US Agency for International Development FP graduation policy and flexibility to revisit the terms following externalities that can influence the fiscal space for health. Incentivizing new domestic financing to pay for co-financing dues is critical, so as not to displace government funding from related health or social sector programs. Pragmatic ways to ensure country compliance can include engaging both the ministries of health and finance as co-signatories to identify and address known administrative and fiscal challenges; establishing dedicated co-financing account with the finance ministry; and instituting a

mutual monitoring mechanism. Lastly, the overall process of policymaking can benefit from an alignment of goals and interests of the key development partners.

5. PLoS Med 21(1): e1004336. (2024)

Understudied and underaddressed: Femicide, an extreme form of violence against women and girls. (abridged)

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Femicide—the intentional killing of women and girls because of their gender —is an extreme manifestation of violence against women and girls rooted in misogyny and harmful beliefs and norms. This form of violence, and insufficient responses to it, constitute an undervaluation of the lives of women and girls. Femicide is a public health and human rights issue that is underdocumented, underresearched, and poorly understood especially in lower- and middle-income country settings. In an accompanying research study in PLOS Medicine, Abrahams and colleagues report estimates for the prevalence of femicide in 1999, 2009, and 2017, to track femicide rates in South Africa over this 18-year period, finding a reduction in femicide overall and different patterns of change in femicide by category of perpetrator. Building on Abrahams and colleagues' previous work on intimate partner femicide, this study provides important insight into changes in the nature and prevalence of femicide in South Africa.

Femicide is generally recognized to have 2 subcategories: intimate partner femicide (IPF) committed by former or current intimate partners, which accounts for most cases of femicide, and nonintimate partner femicide (NIPF). Although data are limited, it is estimated that, globally, 89,000 women were killed intentionally in 2022, of which 48,800 were killed by an intimate partner or a family member.

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The study by Abrahams and colleagues stands out as one of very few comprehensive studies of femicide conducted outside of a high-income country setting. It raises important issues relevant to research, policy, and practice. As noted above, a lack of standardized definition of this form of violence against women and girls and an absence of national and international mechanisms to gather comparable data on femicide confound efforts to identify the magnitude of violence, and changes in prevalence over time. Efforts to address this include the development of a new global framework for measuring gender-related killings of women and girls by the UN Office on Drugs and Crime (UNODC) and UN Women. Abrahams and colleagues' study indicates the need for both targeted and adequately funded studies to assess prevalence of femicide, particularly in lower- and middle-income countries, as well as investments in data systems, including disaggregation of data by gender, age, and other important characteristics, and recording of perpetrator type and other key factors in routine police and legal records. This will allow for a better understanding of how femicide dynamics and risks differ for different groups of women and girls including adolescents, indigenous women, people of diverse sexual orientation and gender identity, and women and girls involved in sex work.

To reduce the occurrence of femicide, we will need more than detailed documentation and updated reporting of femicide. Policies and laws that target femicide are needed but, even where they exist, they may be inconsistently enforced or implemented due to bias or a lack of political will. Abrahams and colleagues note the importance of work of women's movements, civil society, and community-based organizations in reducing violence against women and girls, including femicide. While increased

documentation and data are key for appropriate prevention and response interventions including early detection, it is also critical to confront structural factors, including gender inequalities, and to reduce violence against women and girls in order to address femicide, a persistent and extreme form of violence against women and girls.

6. Bull World Health Organ. 2024 Jan 1; 102(1): 77–78.

Advancing the "sexual" in sexual and reproductive health and rights: a global health, gender equality and human rights imperative (Perspective, abridged)

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As one aspect of population health, the global interest in women's health has focused largely on maternal health and has implicitly ignored other aspects of women's sexual and reproductive health and well-being. Despite this focus, maternal mortality remains unacceptably high, reflecting an indictment of our health systems, with insufficient access to services, uneven quality of care and an over-stretched health workforce. However, women's health extends beyond motherhood, and across their lives the issues stemming from physiological, psychological, or societal factors significantly affect their well-being and quality of life. Often overlooked are sexual health needs of women including menstruation, endometriosis, vulvodynia, dyspareunia and peri- to post-menopause, as conditions that are often normalized to womanhood. Sexual health needs of men are also often overlooked, including infertility, premature ejaculation, impotence, and psychosexual concerns. Furthermore, millions are affected by sexually transmitted infections, including human immunodeficiency virus (HIV), reproductive tract infections and cancers of the reproductive system of women (cervical, breast, uterine and ovarian cancers) and men (prostate and testicular cancers). Defining the potential challenges and health risks at every life stage allows for proactive health-care interventions, education and support systems that promote positive sexual health outcomes throughout a person's life.

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The obstacles to advancing sexual health as part of a comprehensive approach to sexual and reproductive health and rights are deeply rooted in political dynamics, social values and gender inequalities. Steps to make universal sexual and reproductive health and rights a reality can make a difference if applied ambitiously and sustainably. With persistent effort on all fronts, we can foster societies where all people can experience their sexuality safely, positively and with dignity. The health and human rights imperatives are clear – it is time for the global health community to unite around a bold agenda to affirm and secure sexual health as part of sexual and reproductive health and rights for all.

7. BMJ Global Health 2024;9:e013787. Original research

Towards a better understanding of real-world home-visiting programs: a large-scale effectiveness study of parenting mechanisms in Brazil

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Background The scale-up of parenting programmes to support early childhood development (ECD) is poorly understood. Little is known about how and when early interventions are most effective. Sustainability of ECD programming requires a better understanding of the mechanisms of real-world

interventions. We examined the effects on caregiving practices of Primeira Infância Melhor (PIM), a state-wide home-visiting programme in Brazil.

Methods This propensity score matched, longitudinal, quasiexperimental study uses data from the 2015 Pelotas Birth Cohort. We matched children who received PIM at any age with other cohort children on 25 key covariates. Sensitivity, guidance and responsiveness were assessed using video-recorded play tasks. Coerciveness and the parent–child relationship were assessed using the Parenting and Family Adjustment Scales. All parenting outcomes were examined at age 4 years. Separate moderation analyses were conducted for each effect modifier: family income, child age and duration of participation.

Results Out of 4275 children in the cohort, 797 were enrolled in PIM up to age 4 years. 3018 children (70.6%) were included in the analytic sample, of whom 587 received PIM and 2431 were potential controls. We found a positive effect of PIM on responsiveness (β=0.08, 95% CIs 0.002 to 0.16) and sensitivity (β=0.10, 95% CIs 0.02 to 0.19). No effect was found for any secondary outcomes. Moderation analyses revealed a stronger positive effect on sensitivity for low-income parents (β=0.18, 95% CIs 0.03 to 0.34).

Conclusion A state-wide, home-visiting programme in Brazil improved aspects of responsive caregiving. Effects were more pronounced for low-income families, suggesting benefits of purposeful targeting.

8. BMJ Global Health 2024;9:e013029. Original research

Inequalities in use of hospitals for childbirth among rural women in sub-Saharan Africa: a comparative analysis of 18 countries using Demographic and Health Survey data

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Introduction Rising facility births in sub-Saharan Africa (SSA) mask inequalities in higher-level emergency care—typically in hospitals. Limited research has addressed hospital use in women at risk of or with complications, such as high parity, linked to poverty and rurality, for whom hospital care is essential. We aimed to address this gap, by comparatively assessing hospital use in rural SSA by wealth and parity.

Methods Countries in SSA with a Demographic and Health Survey since 2015 were included. We assessed rural hospital childbirth stratifying by wealth (wealthier/poorer) and parity (nulliparity/high parity≥5), and their combination. We computed percentages, 95% CIs and percentage-point differences, by stratifier level. To compare hospital use across countries, we produced a composite index, including six utilisation and equality indicators.

Results This cross-sectional study included 18 countries. In all, a minority of rural women used hospitals for childbirth (2%–29%). There were disparities by wealth and parity, and poorer, high-parity women used hospitals least. The poorer/wealthier difference in utilisation among high-parity women ranged between 1.3% (Mali) and 13.2% (Rwanda). We found use and equality of hospitals in rural settings were greater in Malawi and Liberia, followed by Zimbabwe, the Gambia and Rwanda.

Discussion Inequalities identified across 18 countries in rural SSA indicate poor, higher-risk women of high parity had lower use of hospitals for childbirth. Specific policy attention is urgently needed for this group where disadvantage accumulates.

Global Health

9. Lancet Glob Health. 2024 Mar;12(3):e516-e521. Epub 2024 Jan 23.

Antimicrobial resistance and the great divide: inequity in priorities and agendas between the Global North and the Global South threatens global mitigation of antimicrobial resistance

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To limit the catastrophic effects of the increasing bacterial resistance to antimicrobials on health, food, environmental, and geopolitical security, and ensure that no country or region is left behind, a coordinated global approach is required. In this Viewpoint, we argue that the diverging resource availabilities, needs, and priorities of the Global North and the Global South in terms of the actions required to mitigate the antimicrobial resistance pandemic are a direct threat to success. We argue that evidence suggests a need to prioritise and support infection prevention interventions (ie, clean water and safe sanitation, increased vaccine coverage, and enhanced infection prevention measures for food production in the Global South contrary to the focus on research and development of new antibiotics in the Global North) and to recalibrate global funding resources to address this need. We call on global leaders to redress the current response, which threatens mitigation of the antimicrobial resistance pandemic.

10. BMJ Global Health 2024;9:e014613. Commentary

Rapid diagnostic testing: the key to ensuring sufficient supply and safe access to blood in emergencies

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Recently, the WHO published a strategic framework for management of blood in an emergency situation, when blood banking operations are disrupted. In the wake of ongoing global events, it is timely, important guidance to promote resilience in blood systems worldwide. Maintaining a safe blood supply is an essential part of a health system and in the care of our sickest patients. How would you treat a woman suffering from obstetric haemorrhage if your blood bank was not operational because of disrupted supply chains from natural disaster, violence or war, or global shipping irregularities?

However, the very real dangers posed by acute crises belie the reality that extreme blood scarcity in much of the world is not an impending, catastrophic event, but the current status quo. Millions die without access to sufficient blood for transfusion each year. Of 195 countries, 119 (61%) had blood demands that were not met by their blood supplies. Worse still, countless people have no access to blood at all. The standard transfusion systems do not extend to these ‘blood deserts’ due to the complex logistics required to bring transfusion to these settings.

Malaria

11. Lancet Glob Health. 2024 Feb 28:S2214-109X(24)00013-5. 109X(24)00013-5. Online ahead of print.

Integration of the RTS,S/AS01 malaria vaccine into the Essential Programme on Immunisation in western Kenya: a qualitative longitudinal study from the health system perspective

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Background: Malaria accounts for over half a million child deaths annually. WHO recommends RTS,S/AS01 to prevent malaria in children living in moderate-to-high malaria transmission regions. We conducted a qualitative longitudinal study to investigate the contextual and dynamic factors shaping vaccine delivery and uptake during a pilot introduction in western Kenya.

Methods: The study was conducted between Oct 3, 2019, and Mar 24, 2022. We conducted participant and non-participant observations and in-depth interviews with health-care providers, health managers, and national policymakers at three timepoints using an iterative approach and observations of practices and processes of malaria vaccine delivery. Transcripts were coded by content analysis using the consolidated framework for implementation research, to which emerging themes were added deductively and categorised into challenges and opportunities.

Findings: We conducted 112 in-depth interviews with 60 participants (25 health-care providers, 27 managers, and eight policy makers). Health-care providers highlighted limitations in RTS,S/AS01 integration into routine immunisation services due to the concurrent pilot evaluation and temporary adaptations for health reporting. Initial challenges related to the complexity of the four-dose schedule (up to 24-months); however, self-efficacy increased over time as the health-care providers gained experience in vaccine delivery. Low uptake of the fourth dose remained a challenge. Health managers cited insufficient trained immunisation staff and inadequate funding for supervision. Confidence in the vaccine increased among all participant groups owing to reductions in malaria frequency and severity.

Interpretation: Integration of RTS,S/AS01 into immunisation services in western Kenya presented substantial operational challenges most of which were overcome in the first 2 years, providing important lessons for other countries. Programme expansion is feasible with intensive staff training and retention, enhanced supervision, and defaulter-tracing to ensure uptake of all doses.

12. Lancet Glob Health. 2024 Jan;12(1):e33-e44.

Post-discharge malaria chemoprevention in children admitted with severe anaemia in malaria-endemic settings in Africa: a systematic review and individual patient data meta-analysis of randomised controlled trials

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Background: Severe anaemia is associated with high in-hospital mortality among young children. In malaria-endemic areas, surviving children also have an increased risk of mortality or readmission after hospital discharge. We conducted a systematic review and individual patient data meta-analysis to determine the efficacy of monthly post-discharge malaria chemoprevention in children recovering from severe anaemia.

Methods: This analysis was conducted according to PRISMA-IPD guidelines. We searched multiple databases on Aug 28, 2023, without date or language restrictions, for randomised controlled trials

comparing monthly post-discharge malaria chemoprevention with placebo or standard of care among children (aged <15 years) admitted with severe anaemia in malaria-endemic Africa. Trials using daily or weekly malaria prophylaxis were not eligible. The investigators from all eligible trials shared pseudonymised datasets, which were standardised and merged for analysis. The primary outcome was all-cause mortality during the intervention period. Analyses were performed in the modified intention-to-treat population, including all randomly assigned participants who contributed to the endpoint. Fixed-effects two-stage meta-analysis of risk ratios (RRs) was used to generate pooled effect estimates for mortality. Recurrent time-to-event data (readmissions or clinic visits) were analysed using one-stage mixed-effects Prentice-Williams-Peterson total-time models to obtain hazard ratios (HRs). This study is registered with PROSPERO, CRD42022308791.

Findings: Our search identified 91 articles, of which 78 were excluded by title and abstract, and a further ten did not meet eligibility criteria. Three double-blind, placebo-controlled trials, including 3663 children with severe anaemia, were included in the systematic review and meta-analysis; 3507 (95·7%) contributed to the modified intention-to-treat analysis. Participants received monthly sulfadoxine-pyrimethamine until the end of the malaria transmission season (mean 3·1 courses per child [range 1-6]; n=1085; The Gambia), monthly artemether-lumefantrine given at the end of weeks 4 and 8 post discharge (n=1373; Malawi), or monthly dihydroartemisinin-piperaquine given at the end of weeks 2, 6, and 10 post discharge (n=1049; Uganda and Kenya). During the intervention period, post-discharge malaria chemoprevention was associated with a 77% reduction in mortality (RR 0·23 [95% CI 0·08-0·70], p=0·0094, I2=0%) and a 55% reduction in all-cause readmissions (HR 0·45 [95% CI 0·36-0·56], p<0·0001) compared with placebo. The protective effect was restricted to the intervention period and was not sustained after the direct pharmacodynamic effect of the drugs had waned. The small number of trials limited our ability to assess heterogeneity, its sources, and publication bias.

Interpretation: In malaria-endemic Africa, post-discharge malaria chemoprevention reduces mortality and readmissions in recently discharged children recovering from severe anaemia. Post-discharge malaria chemoprevention could be a valuable strategy for the management of this group at high risk. Future research should focus on methods of delivery, options to prolong the protection duration, other hospitalised groups at high risk, and interventions targeting non-malarial causes of post-discharge morbidity.

13. Lancet 2023;402(10419):2328-45

Malaria

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Malaria is resurging in many African and South American countries, exacerbated by COVID-19-related health service disruption. In 2021, there were an estimated 247 million malaria cases and 619 000 deaths in 84 endemic countries. Plasmodium falciparum strains partly resistant to artemisinins are entrenched in the Greater Mekong region and have emerged in Africa, while Anopheles mosquito vectors continue to evolve physiological and behavioural resistance to insecticides. Elimination of Plasmodium vivax malaria is hindered by impractical and potentially toxic antirelapse regimens. Parasitological diagnosis and treatment with oral or parenteral artemisinin-based therapy is the mainstay of patient management. Timely blood transfusion, renal replacement therapy, and restrictive fluid therapy can improve survival in severe malaria. Rigorous use of intermittent preventive treatment in pregnancy and infancy and seasonal chemoprevention, potentially combined with pre-erythrocytic

vaccines endorsed by WHO in 2021 and 2023, can substantially reduce malaria morbidity. Improved surveillance, better access to effective treatment, more labour-efficient vector control, continued drug development, targeted mass drug administration, and sustained political commitment are required to achieve targets for malaria reduction by the end of this decade.

14. Lancet 2024;403(10425):423

Routine malaria vaccinations begin

Adepoju P.

Starting in Cameroon, over 3 million children in 20 countries are due to receive malaria vaccination in 2024.

Administration of the world's first WHO-recommended malaria vaccine through routine immunisation programmes has begun on Jan 22 in Cameroon. Gavi, the Vaccine Alliance said that more than 3 million children in 20 countries in Africa are expected to receive the malaria vaccine in 2024.

A major challenge for vaccination programmes is successfully delivering all four required doses.

Andrew Jones, Principal Advisor in UNICEF Supply Division's Vaccine Centre, called for proper communication of how the vaccine works and what is needed to achieve the best results. “It's important to say vaccines aren’t the only silver bullet. They have to be used in combination with other malaria prevention and response measures, such as bednets, in some cases, indoor spraying. They’re part of a plethora of tools, but a very powerful tool and very important in continuing to fight against malaria”, Jones said.

15. Clinical Trial Lancet. 2024 Feb 10;403(10426):533-544. Epub 2024 Feb 1.

Safety and efficacy of malaria vaccine candidate R21/Matrix-M in African children: a multicentre, double-blind, randomised, phase 3 trial

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Background: Recently, we found that a new malaria vaccine, R21/Matrix-M, had over 75% efficacy against clinical malaria with seasonal administration in a phase 2b trial in Burkina Faso. Here, we report on safety and efficacy of the vaccine in a phase 3 trial enrolling over 4800 children across four countries followed for up to 18 months at seasonal sites and 12 months at standard sites.

Methods: We did a double-blind, randomised, phase 3 trial of the R21/Matrix-M malaria vaccine across five sites in four African countries with differing malaria transmission intensities and seasonality. Children (aged 5-36 months) were enrolled and randomly assigned (2:1) to receive 5 μg R21 plus 50 μg Matrix-M or a control vaccine (licensed rabies vaccine [Abhayrab]). Participants, their families, investigators, laboratory teams, and the local study team were masked to treatment. Vaccines were administered as three doses, 4 weeks apart, with a booster administered 12 months after the third dose. Half of the children were recruited at two sites with seasonal malaria transmission and the remainder at standard sites with perennial malaria transmission using age-based immunisation. The primary objective was protective efficacy of R21/Matrix-M from 14 days after third vaccination to 12 months after completion of the primary series at seasonal and standard sites separately as co-primary endpoints. Vaccine efficacy against multiple malaria episodes and severe malaria, as well as safety and

immunogenicity, were also assessed. This trial is registered on ClinicalTrials.gov, NCT04704830, and is ongoing.

Findings: From April 26, 2021, to Jan 12, 2022, 5477 children consented to be screened, of whom 1705 were randomly assigned to control vaccine and 3434 to R21/Matrix-M; 4878 participants received the first dose of vaccine. 3103 participants in the R21/Matrix-M group and 1541 participants in the control group were included in the modified per-protocol analysis (2412 [51·9%] male and 2232 [48·1%] female). R21/Matrix-M vaccine was well tolerated, with injection site pain (301 [18·6%] of 1615 participants) and fever (754 [46·7%] of 1615 participants) as the most frequent adverse events. Number of adverse events of special interest and serious adverse events did not significantly differ between the vaccine groups. There were no treatment-related deaths. 12-month vaccine efficacy was 75% (95% CI 71-79; p<0·0001) at the seasonal sites and 68% (61-74; p<0·0001) at the standard sites for time to first clinical malaria episode. Similarly, vaccine efficacy against multiple clinical malaria episodes was 75% (71-78; p<0·0001) at the seasonal sites and 67% (59-73; p<0·0001) at standard sites. A modest reduction in vaccine efficacy was observed over the first 12 months of follow-up, of similar size at seasonal and standard sites. A rate reduction of 868 (95% CI 762-974) cases per 1000 children-years at seasonal sites and 296 (231-362) at standard sites occurred over 12 months. Vaccine-induced antibodies against the conserved central Asn-Ala-Asn-Pro (NANP) repeat sequence of circumsporozoite protein correlated with vaccine efficacy. Higher NANP-specific antibody titres were observed in the 5-17 month age group compared with 18-36 month age group, and the younger age group had the highest 12-month vaccine efficacy on time to first clinical malaria episode at seasonal (79% [95% CI 73-84]; p<0·001) and standard (75% [65-83]; p<0·001) sites.

Interpretation: R21/Matrix-M was well tolerated and offered high efficacy against clinical malaria in African children. This low-cost, high-efficacy vaccine is already licensed by several African countries, and recently received a WHO policy recommendation and prequalification, offering large-scale supply to help reduce the great burden of malaria in sub-Saharan Africa.

16. Editorial Am J Trop Med Hyg. 2024 Feb 6;110(3_Suppl):83-85.Print 2024 Mar 5.

Outreach Training and Supportive Supervision: A Package of Strategies That Improves the Quality of Malaria Services and Provides a Model for Monitoring and Evaluating Their Effective Implementation

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In this supplement, authors from the U.S. President's Malaria Initiative (PMI) Impact Malaria Project present their experience with an approach to improving malaria case management and related services in 11 countries. Outreach Training and Supportive Supervision (OTSS) was initially developed to guide improvements in malaria diagnosis and has been adapted as a package of implementation strategies to support malaria case management and prevention interventions over multiple years. In this supplement, Impact Malaria partners demonstrate through an independent evaluation how the approach is adaptable to multiple settings and can enhance service quality in individual countries.

The contributions from PMI Impact Malaria partners in this supplement demonstrate one approach to overcoming the limitations of routine surveillance and intermittent national surveys. The checklists that supervisors completed during OTSS visits have been exploited as sources of more continuous data on the fidelity of case management service delivery, collected from all participating health facilities. In doing so, the PMI Impact Malaria experience with OTSS may be much more than a promising quality

improvement initiative adapted and applied in settings across multiple countries. It also suggests a model for monitoring the quality and availability of malaria services, something malaria programs across endemic, eliminating, and malaria-free countries can incorporate into their own supervision and support strategies. Individual and composite indicators of readiness and competence derived from supervision checklists allow for comparisons of quality services across settings and over time. Such indicators have been lacking as the nature of malaria case management has evolved over the past few decades. Scaling up OTSS and approaches like it stand to address persisting gaps in service quality as well as malaria information systems that incorporate indicators addressing current case management standard practices.

Other articles in this special

The U.S. President's Malaria Initiative's Support for Improving the Quality of Malaria Case Management Services: Fifteen Years of Progress and Learning

Can Outreach Training and Supportive Supervision Improve Competency in Malaria Service Delivery? An Evaluation in Cameroon, Ghana, Niger, and Zambia

Outreach Training and Supportive Supervision for Quality Malaria Service Delivery: A Qualitative Evaluation in 11 Sub-Saharan African Countries

Clinical Outreach Training and Supportive Supervision Quality-of-Care Analysis: Impact of Readiness Factors on Health Worker Competencies in Malaria Case Management in Cameroon, Mali, and Niger

Use of Supervision Data to Improve Quality of Care for Malaria in Pregnancy: Experience in Six African Countries

How Outreach Training and Supportive Supervision (OTSS) Affect Health Facility Readiness and Health-Care Worker Competency to Prevent and Treat Malaria in Niger: A Secondary Analysis of OTSS Data

Understanding Antenatal Care Service Quality for Malaria in Pregnancy through Supportive Supervision Data in Tanzania

Experiences in Improving the Quality of Community-Based Fever Management from Three Malaria-Endemic African Countries

Impact of the Severe Malaria "Champions Program" on the Management of Severe Malaria Cases in 12 Hospitals of the North and Far North Regions of Cameroon

17. Am J Trop Med Hyg. 2024 Jan 23:tpmd220754.nline ahead of print.

Targeted Drug Administration to Reduce Malaria Transmission: A Systematic Review and Meta-Analysis

Maria Tusell et al., Barcelona Institute for Global Health (ISGlobal), Hospital Clínic - Universitat de Barcelona, Barcelona, Spain.

In low- to very low-malaria transmission areas, most infections may be accrued within specific groups whose behaviors or occupations put them at increased risk of infection. If these infections comprise a large proportion of the reservoir of infection, targeting interventions to these groups could reduce transmission at the population level. We conducted a systematic review to assess the impact of providing antimalarials to groups of individuals at increased risk of malaria whose infections were considered to comprise a large proportion of the local reservoir of infections (targeted drug

administration [TDA]). A literature search was conducted in March 2021 and updated in April 2022. Two reviewers screened titles, abstracts, and full-text records. The Grading of Recommendations Assessment, Development and Evaluation approach was used to rate the certainty of the evidence (CoE) for each outcome. Out of 2,563 records, we identified five studies for inclusion: two cluster-randomized controlled trials (cRCTs) in Uganda and Kenya; one controlled before-after study in Ghana; and two uncontrolled before-after studies in Sri Lanka and Greece. Compared with no intervention, TDA resulted in little to no difference in the prevalence of infection at the population level (risk ratio [RR]: 0.85, 95% CI: 0.73-1.00; one cRCT, high CoE), although TDA likely resulted in a large reduction in prevalence among those targeted by the intervention (RR: 0.15, 95% CI: 0.06-0.38; two cRCTs, moderate CoE). Although TDA may reduce the burden of malaria among those receiving antimalarials, we found no evidence that it reduces transmission at the population level.

Other articles in the same series

Mass Testing and Treatment to Accelerate Malaria Elimination: A Systematic Review and Meta-Analysis

Targeted Testing and Treatment To Reduce Human Malaria Transmission in High-Risk Populations: A Systematic Review

Targeted Drug Administration to Reduce Malaria Transmission: A Systematic Review and Meta-Analysis

Bridging the Gap from Molecular Surveillance to Programmatic Decisions for Malaria Control and Elimination

Development of WHO Recommendations for the Final Phase of Elimination and Prevention of Re-Establishment of Malaria

Mass Drug Administration to Reduce Malaria Transmission: A Systematic Review and Meta-Analysis

Mass Relapse Prevention to Reduce Transmission of Plasmodium vivax—A Systematic Review

Reducing Malaria Transmission through Reactive Indoor Residual Spraying: A Systematic Review

Targeted Test and Treat at Point of Entry to Reduce Importation of Malaria Parasites: A Systematic Review

18. BMJ Global Health 2024;9:e013898. Original research

Malaria trends in districts that were targeted and not-targeted for seasonal malaria chemoprevention in children under 5 years of age in Guinea, 2014–2021

Donal Bisanzio et al., RTI International, Washington, District of Columbia, USA.

Background Seasonal malaria chemoprevention (SMC) is a main intervention to prevent and reduce childhood malaria. Since 2015, Guinea has implemented SMC targeting children aged 3–59 months (CU5) in districts with high and seasonal malaria transmission.

Objective We assessed the programmatic impact of SMC in Guinea's context of scaled up malaria intervention programming by comparing malaria-related outcomes in 14 districts that had or had not been targeted for SMC.

Methods Using routine health management information system data, we compared the district-level monthly test positivity rate (TPR) and monthly uncomplicated and severe malaria incidence for the whole population and disaggregated age groups (<5 years and ≥5 years of age). Changes in malaria

indicators through time were analysed by calculating the district-level compound annual growth rate (CAGR) from 2014 to 2021; we used statistical analyses to describe trends in tested clinical cases, TPR, uncomplicated malaria incidence and severe malaria incidence.

Results The CAGR of TPR of all age groups was statistically lower in SMC (median=−7.8%) compared with non-SMC (median=−3.0%) districts. Similarly, the CAGR in uncomplicated malaria incidence was significantly lower in SMC (median=1.8%) compared with non-SMC (median=11.5%) districts. For both TPR and uncomplicated malaria incidence, the observed difference was also significant when age disaggregated. The CAGR of severe malaria incidence showed that all age groups experienced a decline in severe malaria in both SMC and non-SMC districts. However, this decline was significantly higher in SMC (median=−22.3%) than in non-SMC (median=−5.1%) districts for the entire population, as well as both CU5 and people over 5 years of age.

Conclusion Even in an operational programming context, adding SMC to the malaria intervention package yields a positive epidemiological impact and results in a greater reduction in TPR, as well as the incidence of uncomplicated and severe malaria in CU5.

Communicable Diseases

19. Lancet Glob Health. 2024 Feb;12(2):e257-e270.

Long-term efficacy and safety of a tetravalent dengue vaccine (TAK-003): 4·5-year results from a phase 3, randomised, double-blind, placebo-controlled trial

Vianney Tricou et al, Takeda Pharmaceuticals International, Zurich, Switzerland. Electronic address: Vianney.Tricou@takeda.com.

Background: About half of the world's population lives in dengue-endemic areas. We aimed to evaluate the long-term efficacy and safety of two doses of the tetravalent dengue vaccine TAK-003 in preventing symptomatic dengue disease of any severity and due to any dengue virus (DENV) serotypes in children and adolescents.

Methods: In this ongoing double-blind, randomised, placebo-controlled trial, we enrolled healthy participants aged 4-16 years at 26 medical and research centres across eight dengue-endemic countries (Brazil, Colombia, Dominican Republic, Nicaragua, Panama, Philippines, Sri Lanka, and Thailand). The main exclusion criteria were febrile illness (body temperature ≥38°C) at the time of randomisation, hypersensitivity or allergy to any of the vaccine components, pregnancy or breastfeeding, serious chronic or progressive disease, impaired or altered immune function, and previous receipt of a dengue vaccine. Participants were randomly assigned 2:1 (stratified by age and region) using an interactive web response system and dynamic block assignment to receive two subcutaneous doses of TAK-003 or placebo 3 months apart. Investigators, participants, and their parents or legal guardians were blinded to group assignments. Active febrile illness surveillance and RT-PCR testing of febrile illness episodes were performed for identification of virologically confirmed dengue. Efficacy outcomes were assessed in the safety analysis set (all randomly assigned participants who received ≥1 dose) and the per protocol set (all participants who had no major protocol violations), and included cumulative vaccine efficacy from first vaccination to approximately 4·5 years after the second vaccination. Serious adverse events were monitored throughout. This study is registered with ClinicalTrials.gov, NCT02747927.

Findings: Between Sept 7, 2016, and March 31, 2017, 20 099 participants were randomly assigned (TAK-003, n=13 401; placebo, n=6698). 20 071 participants (10 142 [50·5%] males; 9929 [49·5%]

females; safety set) received TAK-003 or placebo, with 18 257 (91·0%) completing approximately 4·5 years of follow-up after the second vaccination (TAK-003, 12 177/13 380; placebo, 6080/6687). Overall, 1007 (placebo: 560; TAK-003: 447) of 27 684 febrile illnesses reported were virologically confirmed dengue, with 188 cases (placebo: 142; TAK-003: 46) requiring hospitalisation. Cumulative vaccine efficacy was 61·2% (95% CI 56·0-65·8) against virologically confirmed dengue and 84·1% (77·8-88·6) against hospitalised virologically confirmed dengue; corresponding efficacies were 53·5% (41·6-62·9) and 79·3% (63·5-88·2) in baseline seronegative participants (safety set). In an exploratory analysis, vaccine efficacy was shown against all four serotypes in baseline seropositive participants. In baseline seronegative participants, vaccine efficacy was shown against DENV-1 and DENV-2 but was not observed against DENV-3 and low incidence precluded evaluation against DENV-4. During part 3 of the trial (approximately 22-57 months after the first vaccination), serious adverse events were reported for 664 (5·0%) of 13 380 TAK-003 recipients and 396 (5·9%) of 6687 placebo recipients; 17 deaths (6 in the placebo group and 11 in the TAK-003 group) were reported, none were considered study-vaccine related.

Interpretation: TAK-003 demonstrated long-term efficacy and safety against all four DENV serotypes in previously exposed individuals and against DENV-1 and DENV-2 in dengue-naive individuals.

20. Lancet Glob Health. 2024 Feb 21:S2214-109X(23)00607-1. . Online ahead of print.

Paediatric, maternal, and congenital mpox: a systematic review and meta-analysis

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Background: Although mpox has been detected in paediatric populations in central and west Africa for decades, evidence synthesis on paediatric, maternal, and congenital mpox, and the use of vaccines and therapeutics in these groups, is lacking. A systematic review is therefore indicated to set the research agenda.

Methods: We conducted a systematic review and meta-analysis, searching articles in Embase, Global Health, MEDLINE, CINAHL, Web of Science, Scopus, SciELO, and WHO databases from inception to April 17, 2023. We included studies reporting primary data on at least one case of confirmed, suspected, or probable paediatric, maternal, or congenital mpox in humans or the use of third-generation smallpox or mpox vaccines, targeted antivirals, or immune therapies in at least one case in our population of interest. We included clinical trials and observational studies in humans and excluded reviews, commentaries, and grey literature. A pooled estimate of the paediatric case fatality ratio was obtained using random-effects meta-analysis. This study is registered with PROSPERO (CRD420223336648).

Findings: Of the 61 studies, 53 reported paediatric outcomes (n=2123 cases), seven reported maternal or congenital outcomes (n=32 cases), two reported vaccine safety (n=28 recipients), and three reported transmission during breastfeeding (n=4 cases). While a subset of seven observational studies (21 children and 12 pregnant individuals) reported uneventful treatment with tecovirimat, there were no randomised trials reporting safety or efficacy for any therapeutic agent. Among children, the commonest clinical features included rash (86 [100%] of 86), fever (63 [73%] of 86), and lymphadenopathy (40 [47%] of 86). Among pregnant individuals, rash was reported in 23 (100%) of 23; fever and lymphadenopathy were less common (six [26%] and three [13%] of 23, respectively). Most paediatric complications (12 [60%] of 20) arose from secondary bacterial infections. The pooled

paediatric case fatality ratio was 11% (95% CI 4-20), I2=75%. Data from 12 pregnancies showed half resulted in fetal death. Research on vaccine and immune globulin safety remains scarce for children and absent for pregnant individuals.

Interpretation: Our review highlights critical knowledge gaps in the epidemiology, prevention, and treatment of mpox in children and pregnant individuals, especially those residing in endemic countries. Increased funding, international collaboration, and equitable research is needed to inform mpox control strategies tailored for at-risk communities in endemic countries.

21. Lancet Glob Health. 2024 Mar;12(3):e445-e456. Epub 2024 Jan 22.

Long-term immunity following yellow fever vaccination: a systematic review and meta-analysis

Jenny L Schnyder et al, Center for Tropical Medicine and Travel Medicine, Department of Infectious Diseases, Division of Internal Medicine, Amsterdam UMC, University of Amsterdam, Amsterdam, Netherlands.

Background: Long-term immunity following yellow fever vaccination remains controversial. We aimed to summarise the literature regarding the long-term protection (≥10 years) conveyed by a single dose of yellow fever vaccination.

Methods: In this systematic review and meta-analysis, we searched 11 databases from database inception to Aug 24, 2023. We included cohort and cross-sectional studies reporting immunogenicity outcomes for children or adults who received a single dose of yellow fever vaccination 10 or more years ago. Case series and single case reports were excluded. Participants who received more than one dose of yellow fever vaccination before measurement of the outcome were excluded. Identified records were reviewed by two independent reviewers. The primary outcome of the meta-analysis was the pooled seroprotection rate. Risk of bias was assessed with the Risk Of Bias In Non-randomized Studies of Interventions tool, and the Joanna Briggs Institute tool for analytical cross-sectional studies. Studies of moderate or good quality that reported seroprotection were included for random-effects meta-analysis and stratified by endemicity and specific risk groups. The study was registered with PROSPERO, CRD42023384087.

Findings: Of the 7363 articles identified by our search, 39 were eligible for inclusion for systematic review. These studies comprised 2895 individuals vaccinated 10-60 years ago. 20 studies were included in the meta-analysis. Pooled seroprotection rates were 94% (95% CI 86-99) among healthy adults in a non-endemic setting (mostly travellers) and 76% (65-85) in an endemic setting (all Brazilian studies). The pooled seroprotection rate was 47% (35-60) in children (aged 9-23 months at time of vaccination) and 61% (38-82) in people living with HIV. Reported criteria for seroprotection were highly heterogeneous.

Interpretation: The gathered evidence suggests that a single dose of yellow fever vaccination provides lifelong protection in travellers. However, in people living with HIV and children (younger than 2 years), booster doses might still be required because lower proportions of vaccinees were seroprotected 10 or more years post-vaccination. Lower observed seroprotection rates among residents of endemic areas were partly explained by the use of a higher cutoff for seroprotection that was applied in Brazil. Studies from sub-Saharan Africa were scarce and of low quality; thus no conclusions could be drawn for this region.

22. Lancet. 2024 Jan 13;403(10422):203-218.Epub 2023 Dec 7.

Chagas disease

Andréa Silvestre de Sousa, et al

Chagas disease persists as a global public health problem due to the high morbidity and mortality burden. Despite the possibility of a cure and advances in transmission control, epidemiological transformations, such as urbanisation and globalisation, and the emerging importance of oral and vertical transmission mean that Chagas disease should be considered an emerging disease, with new cases occurring worldwide. Important barriers to diagnosis, treatment, and care remain, resulting in repressed numbers of reported cases, which in turn leads to inadequate public policies. The validation of new diagnostic tools and treatment options is needed, as existing tools pose serious limitations to access to health care. Integrated models of surveillance, with community and intersectional participation, embedded in the concept of One Health, are essential for control. In addition, mitigation strategies for the main social determinants of health, including difficulties imposed by migration, are important to improve access to comprehensive health care in a globalised scenario.

23. Lancet 2024;403(10425):459-68

Efficacy of typhoid conjugate vaccine: final analysis of a 4-year, phase 3, randomised controlled trial in Malawian children

Patel PD et al., Malawi-Liverpool-Wellcome Program, Kamuzu University of Health Sciences, Blantyre, Malawi

Background: Randomised controlled trials of typhoid conjugate vaccines among children in Africa and Asia have shown high short-term efficacy. Data on the durability of protection beyond 2 years are sparse. We present the final analysis of a randomised controlled trial in Malawi, encompassing more than 4 years of follow-up, with the aim of investigating vaccine efficacy over time and by age group.

Methods: In this phase 3, double-blind, randomised controlled efficacy trial in Blantyre, Malawi, healthy children aged 9 months to 12 years were randomly assigned (1:1) by an unmasked statistician to receive a single dose of Vi polysaccharide conjugated to tetanus toxoid vaccine (Vi-TT) or meningococcal capsular group A conjugate (MenA) vaccine. Children had to have no previous history of typhoid vaccination and reside in the study areas for inclusion and were recruited from government schools and health centres. Participants, their parents or guardians, and the study team were masked to vaccine allocation. Nurses administering vaccines were unmasked. We did surveillance for febrile illness from vaccination until follow-up completion. The primary outcome was first occurrence of blood culture-confirmed typhoid fever. Eligible children who were randomly assigned and vaccinated were included in the intention-to-treat analyses. This trial is registered at ClinicalTrials.gov, NCT03299426.

Findings: Between Feb 21, 2018, and Sept 27, 2018, 28 130 children were vaccinated; 14 069 were assigned to receive Vi-TT and 14 061 to receive MenA. After a median follow-up of 4·3 years (IQR 4·2-4·5), 24 (39·7 cases per 100 000 person-years) children in the Vi-TT group and 110 (182·7 cases per 100 000 person-years) children in the MenA group were diagnosed with a first episode of blood culture-confirmed typhoid fever. In the intention-to-treat population, efficacy of Vi-TT was 78·3% (95% CI 66·3-86·1), and 163 (129-222) children needed to be vaccinated to prevent one case. Efficacies by age group were 70·6% (6·4-93·0) for children aged 9 months to 2 years; 79·6% (45·8-93·9) for children aged 2-4 years; and 79·3% (63·5-89·0) for children aged 5-12 years.

Interpretation: A single dose of Vi-TT is durably efficacious for at least 4 years among children aged 9 months to 12 years and shows efficacy in all age groups, including children younger than 2 years. These results support current WHO recommendations in typhoid-endemic areas for mass campaigns among children aged 9 months to 15 years, followed by routine introduction in the first 2 years of life.

24. Lancet 2024;403(10427):657-64

Novel lateral flow assay for point-of-care detection of Neisseria gonorrhoeae infection in syndromic management settings: a cross-sectional performance evaluation

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Background: A rapid and affordable point-of-care test is a priority for Neisseria gonorrhoeae control. WHO and Foundation for Innovative New Diagnostics (FIND) have a target product profile for a non-molecular N gonorrhoeae rapid point-of-care test that requires a clinical sensitivity of greater than 80% and a specificity over 95% to be considered useful in syndromic management; test turnaround time should be 30 min or under, and the test should cost less than US$3. A novel lateral flow assay (LFA) was developed to achieve that profile.

Methods: In this cross-sectional study we evaluated the performance of the novel N gonorrhoeae lateral flow assay (NG-LFA) at the primary health-care level in South Africa. Male patients with urethral discharge syndrome and female patients with vaginal discharge syndrome were recruited from five primary health-care facilities in the Buffalo City Metropolitan Municipality health district of South Africa. First-void urine specimens and nurse-collected vaginal swabs were tested in-facility with the NG-LFA and Xpert CT/NG PCR assay. N gonorrhoeae multi-antigen sequence typing (NG-MAST) was performed on all LFA positive specimens.

Findings: Between March 7, and Sept 19, 2022, we enrolled 200 male patients with urethral discharge and 200 female patients with vaginal discharge. The median age of male patients was 24 years (IQR 21-31 years), and the median age of female patients was 25 years (IQR 21-32 years). In addition, 23 male patients and 12 female patients who presented at the facility with a partner notification slip were enrolled of whom one (4%) and five (42%) were symptomatic, respectively. NG-LFA and Xpert results were available for all participants. In urine specimens, NG-LFA sensitivity was 96·1% (Wilson 95% CI 91·2-98·3; 123 LFA-positive among 128 PCR-positive specimens) and 91·7% in vaginal swab specimens (78·2-97·1; 33 LFA-positive among 36 PCR-positive). The specificity was 97·2% in urine specimens (90·4-99·2; 70 LFA-negative among 72 PCR-negative) and 96·3% in vaginal specimens (92·2-98·3; 158 LFA-negative among 164 PCR-negative). In 156 LFA-positive specimens, NG-MAST showed 93 different sequence types.

Interpretation: The novel NG-LFA had excellent clinical sensitivity and specificity in symptomatic male and female patients. The test met the optimal requirement for sensitivity and the minimal requirement for specificity specified in the target product profile. NG-LFA could provide an important tool to optimise clinical management and reduce excess antibiotic use in settings without direct access to laboratory testing.

25. Lancet 2024;403(10427):667-82

Dengue

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Dengue, caused by four closely related viruses, is a growing global public health concern, with outbreaks capable of overwhelming health-care systems and disrupting economies. Dengue is endemic in more than 100 countries across tropical and subtropical regions worldwide, and the expanding range of the mosquito vector, affected in part by climate change, increases risk in new areas such as Spain, Portugal, and the southern USA, while emerging evidence points to silent epidemics in Africa. Substantial advances in our understanding of the virus, immune responses, and disease progression have been made within the past decade. Novel interventions have emerged, including partially effective vaccines and innovative mosquito control strategies, although a reliable immune correlate of protection remains a challenge for the assessment of vaccines. These developments mark the beginning of a new era in dengue prevention and control, offering promise in addressing this pressing global health issue.

26. Emerg Infect Dis. 2024 Mar;30(3):490-498.

Effect of Pneumococcal Conjugate Vaccine on Pneumonia Incidence Rates among Children 2-59 Months of Age, Mongolia, 2015-2021

Claire von Mollendorf et al., Murdoch Children's Research Institute, Melbourne, Victoria, Australia

Starting in June 2016, the 13-valent pneumococcal conjugate vaccine (PCV13) was introduced into the routine immunization program of Mongolia by using a 2+1 dosing schedule, phased by district. We used prospective hospital surveillance to evaluate the vaccine's effect on pneumonia incidence rates among children 2-59 months of age over a 6-year period. Of 17,607 children with pneumonia, overall adjusted incidence rate ratios showed decreased primary endpoint pneumonia, very severe pneumonia, and probable pneumococcal pneumonia until June 2021. Results excluding and including the COVID-19 pandemic period were similar. Pneumonia declined in 3 districts that introduced PCV13 with catch-up campaigns but not in the 1 district that did not. After PCV13 introduction, vaccine-type pneumococcal carriage prevalence decreased by 44% and nonvaccine-type carriage increased by 49%. After PCV13 introduction in Mongolia, the incidence of more specific pneumonia endpoints declined in children 2-59 months of age; additional benefits were conferred by catch-up campaigns.

27. Am J Trop Med Hyg. 2024 Jan 9;110(2):399-403. Print 2024 Feb 7.

Combined Hepatitis B Virus and Hepatocellular Carcinoma Screening Using Point-of-Care Testing and Ultrasound in a Tanzanian Emergency Department

James S Ford et al., Department of Emergency Medicine, University of California, San Francisco, California.

The WHO aims to detect 90% of global cases of hepatitis B virus (HBV) by 2030. Sub-Saharan Africa carries a disproportionate burden of HBV and hepatocellular carcinoma (HCC). In this study, we sought to assess the utility of a combined HBV and HCC screening program in Tanzania. We conducted a prospective, serial cross-sectional study of patients who participated in a combined HBV and HCC screening program at a regional referral hospital emergency department (ED) in Arusha, Tanzania,

between April 19, 2022 and June 3, 2022. All patients completed a study questionnaire and were tested for HBV surface antigen. Patients who were HBV positive were screened for HCC via point-of-care ultrasound (POCUS). The primary outcome was the number of new HBV diagnoses. Data were analyzed with descriptive statistics. A total of 846 patients were tested for HBV (primary ED: 761, clinic referral: 85). The median age of patients was 44 ± 15 years, and 66% were female. Only 15% of patients reported having a primary care doctor. Thirteen percent of patients had been previously vaccinated for HBV. There were 17 new HBV diagnoses (primary ED: 16, clinic referral: 1), which corresponds to a seroprevalence of 2.0% (95% CI: 1.2%, 3.2%). No patients had liver masses detected on POCUS. An ED-based, combined HBV and HCC screening protocol can be feasibly implemented. This study could serve as a model for HBV/HCC screening in regions with high HBV endemicity and low rates of community screening.

28. N Engl J Med 2024; 390:242-253

Syphilis Complicating Pregnancy and Congenital Syphilis

Irene A. Stafford, M.D., et al. Lead author : Department of Obstetrics and Gynecology, Division of Maternal Fetal Medicine, McGovern Medical School at UT Health, Houston.

The effect of untreated syphilis on maternal and neonatal health outcomes is profound. This review discusses the manifestations and effects of syphilis during pregnancy and mother-to-child transmission.

29. BMJ Global Health 2024;9:e014872. Editorial

The role of Africa Centres for Disease Control and Prevention during response to COVID-19 pandemic in Africa: lessons learnt for future pandemics preparedness, prevention, and response

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Introduction

The African continent has been highly affected by recurrent emerging and re-emerging public health threats, including Ebola, Marburg, Mpox, Measles, Dengue Fever, Cholera, COVID-19, and others, which have adversely affected the lives and livelihoods of the African people. Despite decades of recurring outbreaks, the African public health emergency management system is characterised by a limited capacity to prevent, detect, and respond to the outbreak, including the poor governance and coordination of the already fragile health system and limited health workforce to respond to the outbreaks early.

The 2014–2016 Ebola Virus Disease outbreak in West Africa was the catalyst that accelerated the commitments that led to the establishment of a continental public health agency as it exposed the weakness of health systems in affected countries and the challenges of mounting well-coordinated regional and continental responses. African Heads of State and Government launched the Africa Centres for Disease Control and Prevention (Africa CDC) on 31 January 2017, to strengthen public health institutions' capacity to prevent, detect, control, and respond quickly and effectively to disease threats.

Africa CDC, the only continental Pan-African health institution, is mandated to oversee and support the implementation of the New Public Health Order, which consists of five key elements: strengthening public health institutions on the continent; strengthening the Public Health Workforce; expanding the local manufacturing of vaccines, diagnostics, and therapeutics; increase domestic financing for health; and developing respectful and action-oriented partnerships. Consequently, the Africa CDC has been rigorously working to support public health initiatives of Member States and strengthen the capacity of their public health institutions to prevent, detect, control, and respond quickly and effectively to disease threats and outbreaks. As such, the African CDC was better positioned to deal with COVID-19 during its emergence.

Lessons learnt from the response to COVID-19 pandemic

Although the acute phase of the COVID-19 pandemic has been declared over, as stated by the WHO, its impact remains challenging to the health system. Despite the continued reports of COVID-19 cases and deaths globally, the testing capacity and case detection are not getting due attention in Africa. Thus, it is critical to reactivate the interventions and capitalise on the lessons learnt thus far to address the ongoing burden and prepare for future pandemics.

30. BMJ Global Health 2024;9:e013205. Original research

Costs-effectiveness and cost components of pharmaceutical and non-pharmaceutical interventions affecting antibiotic resistance outcomes in hospital patients: a systematic literature review

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Introduction Limited information on costs and the cost-effectiveness of hospital interventions to reduce antibiotic resistance (ABR) hinder efficient resource allocation.

Methods We conducted a systematic literature review for studies evaluating the costs and cost-effectiveness of pharmaceutical and non-pharmaceutical interventions aimed at reducing, monitoring and controlling ABR in patients. Articles published until 12 December 2023 were explored using EconLit, EMBASE and PubMed. We focused on critical or high-priority bacteria, as defined by the WHO, and intervention costs and incremental cost-effectiveness ratio (ICER). Following Preferred Reporting Items for Systematic review and Meta-Analysis guidelines, we extracted unit costs, ICERs and essential study information including country, intervention, bacteria-drug combination, discount rates, type of model and outcomes. Costs were reported in 2022 US dollars ($), adopting the healthcare system perspective. Country willingness-to-pay (WTP) thresholds from Woods et al 2016 guided cost-effectiveness assessments. We assessed the studies reporting checklist using Drummond's method.

Results Among 20 958 articles, 59 (32 pharmaceutical and 27 non-pharmaceutical interventions) met the inclusion criteria. Non-pharmaceutical interventions, such as hygiene measures, had unit costs as low as $1 per patient, contrasting with generally higher pharmaceutical intervention costs. Several studies found that linezolid-based treatments for methicillin-resistant Staphylococcus aureus were cost-effective compared with vancomycin (ICER up to $21 488 per treatment success, all 16 studies' ICERs<WTP). Infection control measures such as hand hygiene and gown usage (ICER=$1160/QALY or $4949 per ABR case averted, all ICERs<WTP) and PCR or chromogenic agar screening for ABR detection were highly cost-effective (eg, ICER=$1206 and $1115 per life-year saved in Europe and the USA). Comparisons were hindered by within-study differences.

Conclusion Robust information on ABR interventions is critical for efficient resource allocation. We highlight cost-effective strategies for mitigating ABR in hospitals, emphasising substantial knowledge gaps, especially in low-income and middle-income countries. Our study serves as a resource for guiding future cost-effectiveness study design and analyses.

Global Health

31. Lancet Glob Health. 2024 Jan;12(1):e134-e144. Epub 2023 Dec 11.

Primary health care in practice: usual source of care and health system performance across 14 countries

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Primary health care (PHC) is central to attainment of the Sustainable Development Goals, yet comparable cross-country data on key aspects of primary care have not been widely available. This study analysed data from the People's Voice Survey, which was conducted in 2022 and 2023 in 14 countries. We documented usual source of care across countries and examined associations of usual source of care with core PHC services, quality ratings, and health system confidence. We found that 75% of respondents had a usual source of care, and that 40% of respondents accessed usual care in the public sector at primary level. 44% rated their usual source of care as very good or excellent. Access to PHC-linked screenings and treatments varied widely within and across countries. Having any usual source of care was associated with higher take-up of preventive services, greater access to treatment including mental health services, and greater health system endorsement. Strengthening links between health system users and primary care providers could improve take-up of preventive care and increase user satisfaction with health system performance.

32. Bull World Health Organ. 2024 Feb 1; 102(2): 86–86A.

Global health inequities: more challenges, some solutions (editorial to theme issue)

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Health inequity is the presence of unfair, avoidable or remediable differences in achieving optimal health and well-being among people. However, despite global commitment to reduce health inequities, progress has been uneven or even delayed by slow progress towards universal health coverage (UHC). The current geopolitical tensions and high number of refugees further compound the challenges of reducing health inequities.

This theme issue of the Bulletin of the World Health Organization shows how health inequities affect many areas, both at national and global scale. The papers discuss health inequity and its root causes, and offer promising solutions. Challenges include national statistics not capturing health inequity among vulnerable populations such as Indigenous people, refugees and migrant workers, including migrant health workforce. However, good practices exist, with one paper describing how in Australia local Indigenous communities successfully manage primary health-care clinics. With an empowered Indigenous population and continued government support, these practices can be scaled up and

replicated. Another paper describes the World Health Organization (WHO) guidelines on self-care, a promising intervention to access hard-to-reach populations in efforts to achieve UHC.

Monitoring the trends of health inequities in countries is important to guide policies. One index that could be suitable for evaluating equity changes over time in low- and middle-income countries is the socioeconomic deprivation index. In this issue, a study shows how the index, based on data from routine household surveys, can be used to analyse the coverage of maternal and child interventions by socioeconomic deprivation status.

A subtle and invisible type of inequity is uncovered in a study revealing that independent evaluations of global health initiatives are often undertaken by consulting firms or consultants from high-income countries. These experts often have limited knowledge and understanding of the sociopolitical, cultural and health system contexts of countries, and yet produce policy recommendations based on their assessments. The authors of this study provide suggestions on how to rectify this inequity, though further impact assessments are needed.

Another paper suggests that decolonization processes need to address the root causes of the power imbalance between high- and low-income countries. Contemporary forms of colonialism, notably corporate and financialized colonialism through globalized systems of wealth extraction and profiteering, lead to inequitable global health systems. Recruitment of health personnel from low- and middle-income countries to high-income countries can be categorized as a form of neo-colonization. The WHO Global code of practice on international recruitment of health personnel offers guidance in this respect. Although more information is needed to assess the Code's effectiveness, one of its gaps is insufficient level of implementation to realize its full potential towards UHC and reducing health inequity.

In the ongoing negotiations for the amendment of the International Health Regulations 2005 (IHR), and for a Pandemic Agreement, both of which are expected to be concluded and adopted by the World Health Assembly in May 2024, a member of the IHR Review Committee provides insights on the complex landscape of global health security. WHO's authority in global health security is eroding, and high-income countries use forum shifting to consolidate their positions. Forum shifting, defined as a strategy to influence negotiations towards texts that better meet actors' needs, is illustrated by high-income countries arguing at the Intergovernmental Negotiating Body that the waiver of intellectual property be discussed at the World Trade Organization (WTO). Their stance remained unchanged although the WTO Ministerial Conference had decided on Trade-Related Aspects of Intellectual Property Rights waivers for the coronavirus disease 2019 (COVID-19) vaccine on 17 June 2022. A different example of negotiation strategy is the Group for Equity that negotiated the Pandemic Agreement on behalf of low- and middle-income countries from the WHO African Region and other like-minded countries.

Another article published in this issue reports on an increasing trend of including corporate social responsibility provisions in international investment agreements. Despite varied detail of commitment, these provisions offer a potential tool to increase government guidance and the accountability of global corporations, including with respect to public health commitments. Such is the case with provisions that require investors operating in the host country to refrain from seeking exemptions to health policies. Furthermore, the United Nations Global Compact, a voluntary corporate sustainability initiative, encourages alignment of corporate strategies and operations with principles regarding human rights, labour, environment and anti-corruption. Companies adopting the initiative show increased sales growth and profitability, though no difference in labour productivity.

This theme issue of the Bulletin was launched at the Prince Mahidol Award Conference 2024. Rectifying global health inequity requires multidimensional interventions and decisive government leadership at the macro-policy level, collaboration with affected populations at the micro-operational level and accelerating progress towards UHC. Strengthening aid effectiveness by recognizing countries' priorities and regular monitoring of health inequities to guide policy are needed.

Climate change

33. Lancet 2023 Dec;402(10419):2346-94

The 2023 report of the Lancet Countdown on health and climate change: the imperative for a health-centred response in a world facing irreversible harms

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The Lancet Countdown is an international research collaboration that independently monitors the evolving impacts of climate change on health, and the emerging health opportunities of climate action. In its eighth iteration, this 2023 report draws on the expertise of 114 scientists and health practitioners from 52 research institutions and UN agencies worldwide to provide its most comprehensive assessment yet.

In 2022, the Lancet Countdown warned that people's health is at the mercy of fossil fuels and stressed the transformative opportunity of jointly tackling the concurrent climate change, energy, cost-of-living, and health crises for human health and wellbeing. This year's report finds few signs of such progress. At the current 10-year mean heating of 1·14°C above pre-industrial levels, climate change is increasingly impacting the health and survival of people worldwide, and projections show these risks could worsen steeply with further inaction. However, with health matters gaining prominence in climate change negotiations, this report highlights new opportunities to deliver health-promoting climate change action and a safe and thriving future for all.

Notwithstanding the insufficient progress identified, this report reveals the path to a healthy future. Redirecting subsidies, lending, investment, and other financial flows away from fossil fuels is crucial to supporting a healthy future. Funds are available to support a just clean energy transition, health-promoting activities, and reduced inequities. Empowering countries and local communities in the safe development, deployment, and adoption of clean energies can reduce energy poverty by supporting access to decentralised energy. In turn, this can promote access to quality health-supporting services and promote local skills, generate jobs, and support local economies—strengthening the socioeconomic determinants of health. Health-centred urban redesign can promote safe active travel, reduce building and transport-based air pollution and GHG emissions, and increase resilience to climate hazards. Increasing urban green spaces can also offer local cooling, increase carbon sequestration, and provide direct benefits to physical and mental health (indicators 2.2.2 and 2.2.3). Providing further support for climate and health risk assessments and adaptation planning can support increased resilience to unavoidable climate change, delivering stronger health systems for all. The health benefits of climate action could be transformative, protecting lives and livelihoods and paving the way to a thriving future.

Achieving these ambitions requires guidance and leadership on health-promoting climate policies, and steadfast, sustained commitments to deliver a just transition. Driven by the mandate to protect

people's health, wellbeing, and survival above all else, health professionals are uniquely positioned to guide actions to safeguard the human right to heath and a healthy environment.

Encouragingly, following decades of the health sector raising the alarm, engagement with health and climate change is increasing among key actors and decision makers. The renewed focus on health within forthcoming UNFCCC negotiations offers an unprecedented opportunity to foster climate action. Making the most of this opportunity will require coordinated efforts grounded in science to hold decision makers accountable and counteract the growing lobbying and influence of the fossil fuel sector and other health-harming industries. To truly protect health, climate negotiations must drive a rapid and sustained shift away from fossil fuels, accelerate mitigation, and increase support for health adaptation. Anything less would amount to healthwashing—increasing the acceptability of initiatives that minimally advance climate change action to the detriment of billions of people alive today.

With climate change claiming millions of lives annually and its threats rapidly growing, seizing the opportunity to secure a healthier future has never been more vital. Ensuring that a thriving future remains in reach will require the coordinated action of health professionals, policy makers, corporations, and financial institutions.

34. JAMA Psychiatry 2023;80(12):1183-4

Climate Change and Mental Health-Time to Act Now

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This Viewpoint discusses the lack of research on the impact of climate events on mental health, climate change–related inequalities in low- and middle-income countries, and the immediate need to act now.

35. Health Policy and Planning, Jan 2024, Vol 39 (1): 1–3

Time to treat the climate and nature crisis as one indivisible global health emergency

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This Comment is being published simultaneously in multiple journals.

Over 200 health journals call on the United Nations, political leaders and health professionals to recognize that climate change and biodiversity loss are one indivisible crisis and must be tackled together to preserve health and avoid catastrophe. This overall environmental crisis is now so severe as to be a global health emergency.

The world is currently responding to the climate crisis and the nature crisis as if they were separate challenges. This is a dangerous mistake. The 28th Conference of the Parties (COP) on climate change is about to be held in Dubai, while the 16th COP on biodiversity is due to be held in Turkey in 2024. The research communities that provide the evidence for the two COPs are unfortunately largely separate, but they were brought together for a workshop in 2020 when they concluded that: ‘Only by considering climate and biodiversity as parts of the same complex problem … can solutions be developed that avoid maladaptation and maximize the beneficial outcomes’.

As the health world has recognized with the development of the concept of planetary health, the natural world is made up of one overall interdependent system. Damage to one subsystem can create feedback that damages another—for example, drought, wildfires, floods and the other effects of rising global temperatures destroy plant life and lead to soil erosion and so inhibit carbon storage, which means more global warming. Climate change is set to overtake deforestation and other land-use change as the primary driver of nature loss.

Nature has a remarkable power to restore. For example, deforested land can revert to forest through natural regeneration, and marine phytoplankton, which act as natural carbon stores, turn over one billion tonnes of photosynthesizing biomass every 8 days. Indigenous land and sea management has a particularly important role to play in regeneration and continuing care.

Restoring one subsystem can help another—for example, replenishing soil could help remove greenhouse gases from the atmosphere on a vast scale. But actions that may benefit one subsystem can harm another—for example, planting forests with one type of tree can remove carbon dioxide from the air but can damage the biodiversity that is fundamental to healthy ecosystems.

The impacts on health

Human health is damaged directly by both the climate crisis, as the journals have described in previous editorials, and by the nature crisis. This indivisible planetary crisis will have major effects on health as a result of the disruption of social and economic systems—shortages of land, shelter, food and water, exacerbating poverty, which in turn will lead to mass migration and conflict. Rising temperatures, extreme weather events, air pollution and the spread of infectious diseases are some of the major health threats exacerbated by climate change. 'Without nature, we have nothing,' was UN Secretary-General António Guterres's blunt summary at the biodiversity COP in Montreal last year. Even if we could keep global warming below an increase of 1.5°C over pre-industrial levels, we could still cause catastrophic harm to health by destroying nature.

Access to clean water is fundamental to human health, and yet pollution has damaged water quality, causing a rise in water-borne diseases. Contamination of water on land can also have far-reaching effects on distant ecosystems when that water runs off into the ocean. Good nutrition is underpinned by diversity in the variety of foods, but there has been a striking loss of genetic diversity in the food system. Globally, about a fifth of people rely on wild species for food and their livelihoods. Declines in wildlife are a major challenge for these populations, particularly in low- and middle-income countries. Fish provide more than half of dietary protein in many African, South Asian and small island nations, but ocean acidification has reduced the quality and quantity of seafood.

Changes in land use have forced tens of thousands of species into closer contact, increasing the exchange of pathogens and the emergence of new diseases and pandemics. People losing contact with the natural environment and the declining loss in biodiversity have both been linked to increases in noncommunicable, autoimmune and inflammatory diseases and metabolic, allergic and neuropsychiatric disorders. For Indigenous people, caring for and connecting with nature is especially important for their health. Nature has also been an important source of medicines, and thus, reduced diversity also constrains the discovery of new medicines.

Communities are healthier if they have access to high-quality green spaces that help filter air pollution, reduce air and ground temperatures and provide opportunities for physical activity. Connection with nature reduces stress, loneliness and depression while promoting social interaction. These benefits are threatened by the continuing rise in urbanization.

Finally, the health impacts of climate change and biodiversity loss will be experienced unequally between and within countries, with the most vulnerable communities often bearing the highest burden. Linked to this, inequality is also arguably fuelling these environmental crises. Environmental challenges and social/health inequities are challenges that share drivers, and there are potential co-benefits of addressing them.

A global health emergency

In December 2022, the biodiversity COP agreed on the effective conservation and management of at least 30% of the world's land, coastal areas and oceans by 2030. Industrialized countries agreed to mobilize $30 billion per year to support developing nations to do so. These agreements echo promises made at climate COPs.

Yet many commitments made at COPs have not been met. This has allowed ecosystems to be pushed further to the brink, greatly increasing the risk of arriving at 'tipping points', abrupt breakdowns in the functioning of nature. If these events were to occur, the impacts on health would be globally catastrophic.

This risk, combined with the severe impacts on health already occurring, means that the WHO should declare the indivisible climate and nature crisis as a global health emergency. The three pre-conditions for WHO to declare a situation to be a Public Health Emergency of International Concern are that it (1) is serious, sudden, unusual or unexpected, (2) carries implications for public health beyond the affected state's national border and (3) may require immediate international action. Climate change would appear to fulfil all of those conditions. While the accelerating climate change and loss of biodiversity are not sudden or unexpected, they are certainly serious and unusual. Hence, we call for WHO to make this declaration before or at the 77th World Health Assembly in May 2024.

Tackling this emergency requires the COP processes to be harmonized. As a first step, the respective conventions must push for better integration of national climate plans with biodiversity equivalents. As the 2020 workshop that brought climate and nature scientists together concluded, 'Critical leverage points include exploring alternative visions of good quality of life, rethinking consumption and waste, shifting values related to the human-nature relationship, reducing inequalities, and promoting education and learning'. All of these would benefit health.

Health professionals must be powerful advocates for both restoring biodiversity and tackling climate change for the good of health. Political leaders must recognize both the severe threats to health from the planetary crisis as well as the benefits that can flow to health from tackling the crisis. But first, we must recognize this crisis for what it is: a global health emergency.

HIV

36. Lancet 2024;403(10421):16-7

Steady but variable progress towards global HIV targets

Kirby T.

An eclectic mix of countries have already reached the UNAIDS 95-95-95 targets, but others including Russia, Ukraine, and the USA remain off track. Tony Kirby reports.

Global progress towards the UN's HIV control goals is impressive, if not quite at the target yet, according to the latest UNAIDS analysis. The UN 2021 Declaration on HIV introduced the 95-95-95 targets to be reached by 2025; that 95% of all people living with HIV (PLWHIV) should be diagnosed; of these, 95% should be on antiretroviral treatment and, of those on treatment, 95% should have viral suppression. In practice, of all PLWHIV in a country, this target means that 95% should be diagnosed, 90% should be on antiretroviral treatment (ie, 95% of those diagnosed), and 86% should have viral suppression (ie, 95% of the 90% on antiretroviral treatment). Thus, any country that reaches 95-90-86 for all PLWHIV will have met the targets.

UNAIDS says that, as of 2022, 86% of all PLWHIV were diagnosed globally; of these, 89% were on treatment, and of those on treatment, 93% had viral suppression. “Overall, progress in relation to the 95-95-95 targets has been most impressive in countries where strong financial investments in the HIV response have been leveraged for the greatest impact by bold political leadership, which tackles the inequalities driving the epidemic, enables communities to play their vital role, and provides evidence-based prevention, treatment, and care services for all”, explains Winnie Byanyima, Executive Director of UNAIDS. “The experience of these countries demonstrates that the end of AIDS as a public health threat by 2030 is possible if the right political choices are made.”

UNAIDS attributes these successes to the financial commitment from The Global Fund to Fight AIDS, Tuberculosis and Malaria and the US President's Emergency Plan for AIDS Relief (PEPFAR) to scale up evidence-informed treatment programmes. In 2022, The Global Fund spent US$2·4 billion on HIV, while PEPFAR spent $4·8 billion. UNAIDS also praised the adoption of improved antiretroviral regimens, particularly those including dolutegravir as a first-line treatment; the use of differentiated service delivery (adaptable and simplified services to better serve the needs of patients) and treat-all approaches; the political commitment to address inequalities; the support to reduce stigma; provision of access to services; and finally the engagement with communities in the response to ensure those services are of good quality and reach the most marginalised groups.

Although it might be unsurprising that countries such as France and the UK have already surpassed the targets, UNAIDS and other global health experts are particularly glad to see the number of successful African countries in the list. Eswatini (97-94-93), Botswana (96-93-92), Zimbabwe (95-94-89), and Rwanda (95-92-90) are resounding success stories. Burundi, Kenya, Lesotho, Malawi, Namibia, Togo, Uganda, and Zambia are close to joining them. These achievements are all the more remarkable given that, 20 years ago, many were struggling to provide even hundreds of their PLWHIV with antiviral drugs.

Other countries close to hitting the 95-95-95 goals include Denmark, Iceland, Kuwait, Luxembourg, São Tomé and Príncipe, Saudi Arabia, Slovenia, and Thailand.

Several countries and territories are way off track to meet the UN goals for various reasons. The conflict in Israel and Palestine means that, for people living in the occupied Palestinian territory, access to HIV testing and treatment services, as well as other routine medical treatments, has been all but cut off. For several years, Russia has been restricting and reducing access to services for PLWHIV, especially for MSM and people who inject drugs. Ukraine, which had been on a positive path, has had all of its medical services disrupted by Russia's invasion, and diagnosing new cases of HIV and beginning and monitoring treatment has consequently become extremely difficult—but not impossible.

One high-income country that is lagging behind in progress towards the 95-95-95 goals is the USA.

Anthony Fauci (former Head of the US National Institute of Allergy and Infectious Diseases at the US National Institutes of Health): “… among other things, what needs to change in the USA to help hit the targets is greater equity in access to health care and initiatives to reduce stigma.”

37. Lancet 2024;403(10425):471-92

HIV epidemiology, prevention, treatment, and implementation strategies for public health

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The global HIV response has made tremendous progress but is entering a new phase with additional challenges. Scientific innovations have led to multiple safe, effective, and durable options for treatment and prevention, and long-acting formulations for 2-monthly and 6-monthly dosing are becoming available with even longer dosing intervals possible on the horizon. The scientific agenda for HIV cure and remission strategies is moving forward but faces uncertain thresholds for success and acceptability. Nonetheless, innovations in prevention and treatment have often failed to reach large segments of the global population (eg, key and marginalised populations), and these major disparities in access and uptake at multiple levels have caused progress to fall short of their potential to affect public health. Moving forward, sharper epidemiologic tools based on longitudinal, person-centred data are needed to more accurately characterise remaining gaps and guide continued progress against the HIV epidemic. We should also increase prioritisation of strategies that address socio-behavioural challenges and can lead to effective and equitable implementation of existing interventions with high levels of quality that better match individual needs. We review HIV epidemiologic trends; advances in HIV prevention, treatment, and care delivery; and discuss emerging challenges for ending the HIV epidemic over the next decade that are relevant for general practitioners and others involved in HIV care.

38. N Engl J Med 2024; 390:487-489

Perspective: Advanced HIV as a Neglected Disease

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In the early decades of the global response to HIV/AIDS, the focus was on saving lives. And rightly so: without antiretroviral treatment (ART), people lived less than a year, on average, from the time they developed AIDS. But over the past 15 years, the focus has shifted to virologic control. Since modeling and trials have shown that treating HIV could not only benefit the infected person but also eliminate transmission, viral suppression has become the main measure of success for HIV programs. Global targets have focused attention on the numbers of people who are tested, who begin receiving treatment, and in whom viral suppression is achieved. Reducing mortality is no longer a central metric.

For many years, HIV treatment was given only to people with a low CD4 count, who were at the highest risk for severe illness and death. In 2015, two large randomized trials showed that treatment should be started as soon as possible after infection. These results led to a rapid global shift in policy and funding, with the goal of getting as many people on treatment as early as possible. This change led to the perception that CD4 testing was no longer essential. To help pay for increased treatment coverage and assessment of its impact on virologic outcomes, donors and countries reduced their support for CD4 testing, and testing rates within ART programs declined rapidly. This shift occurred despite consistent inclusion of CD4 testing in clinical guidelines from the World Health Organization (WHO) and other leading authorities, who deemed it essential at baseline and when a patient returned to care.

Although treatment coverage has increased substantially in recent years, any associated reductions in AIDS-related deaths have been smaller and slower than expected. The proportion of people with advanced HIV disease (defined by a CD4 count of less than 200 cells per cubic millimeter) remains high: it is estimated that more than 4 million people have advanced HIV disease, and each year more than 600,000 of them are expected to die. Many of these deaths can be prevented — if the global HIV/AIDS community reconsiders who is at risk for the worst outcomes; determines what infections lead to the greatest morbidity and mortality; invests in new tools for diagnosing, preventing, and treating these conditions; and supports the systems required for delivering those tools effectively.

Until recently, advanced HIV was viewed as a problem of late presentation, so the solution was thought to be testing more people and diagnosing the disease earlier. Although late presentation remains problematic, however, advanced HIV is now predominantly seen among people who started care but were not effectively engaged or have disengaged, returning only when they're ill. Loss to care has long been recognized as a challenge, but we've only recently begun to recognize the extent to which cycling in and out of care increases the burden of advanced HIV disease. The health risk posed by interrupting treatment is established: trial data show a precipitous drop in CD4 cell count within the first 2 months after treatment is stopped.

The leading causes of HIV-related deaths appear to have changed little over time: they include tuberculosis, cryptococcal meningitis, and pneumocystis pneumonia, among others. But there have been few recent attempts to confirm empirically whether these infections are still the major killers of people with HIV in the highest-burden countries. Hospitalized HIV patients continue to routinely test positive for tuberculosis and cryptococcal meningitis, but these findings partly reflect availability bias: the diagnostics for these diseases are the ones most frequently available to clinicians. To address this gap, Emory University plans to launch a study in 2024 combining minimally invasive tissue sampling with rigorous cause-of-death analysis. The study will take place at hospitals in four African countries with varying geography, resources, and progress in epidemic response.

Meanwhile, all opportunistic infections remain challenging to manage with existing tools, and there are few new developments on the horizon. Recently, the WHO surveyed the research pipeline for advanced HIV and found very little research and development. Overall, HIV is not a neglected disease — tens of billions of dollars have been invested in scaling up access to prevention and treatment. In the past decade, however, advanced HIV has become neglected, with limited attention paid to either consistently using existing tools or finding new tools for preventing AIDS-related deaths. As defined by the WHO, the "neglected tropical diseases" comprise 20 diseases and disease groups that cause devastating health, social, and economic consequences among the world's poorest people; they are defined by a lack of sufficient resources for and inadequate research attention to prevention, screening, diagnosis, and treatment. The same shortcomings now apply to advanced HIV disease.

Driving the neglect of advanced HIV is a shrinking ability to diagnose the problem. Key manufacturers of CD4 cell count tests are withdrawing from the market in low- and middle-income countries, judging that decreased demand means these tests are no longer needed. Conventional laboratory-based CD4 testing capacity is being defunded and dismantled, leaving treatment programs reliant on a very small number of rapid CD4 testing devices of variable performance, with no guarantees of sustainable access.

Once HIV disease becomes advanced, there are few tools for preventing and treating the resulting opportunistic infections. A survey conducted in 48 African countries up to the end of 2022 found limited capacity for diagnosing common opportunistic infections — in particular, pneumocystic pneumonia, cryptococcal diseases, and histoplasmosis. There has been recent progress in some

areas, including simpler, safer treatment for cryptococcal meningitis and promising new diagnostic tools for histoplasmosis and talaromycosis. The Drugs for Neglected Diseases Initiative is investing in new tools for managing cryptococcal meningitis; this investment is very welcome but also underscores the point that advanced HIV is being neglected by the pharmaceutical industry.

Meanwhile, for other opportunistic infections, progress remains minimal. These opportunistic infections include severe bacterial infections, pneumocystis pneumonia, and toxoplasmosis — all among the leading causes of deaths since the HIV pandemic began, but all difficult to diagnose and treat in resource-limited settings where the burden is greatest. In November 2023, the Bill and Melinda Gates Foundation granted the University of Cape Town funding to conduct a large trial to assess whether providing azithromycin to all people with severe immunosuppression can reduce mortality from severe bacterial infections. This research is necessary but insufficient: results are not expected for 4 to 5 years, and with current funding the trial can include only adults. A key priority remains development and deployment of tools for preventing, diagnosing, and treating severe bacterial infections as part of a public health response attentive to risks of antibiotic resistance. Many other causes of AIDS-related death, including cytomegalovirus infection and cancers such as Kaposi's sarcoma, are extremely challenging to manage, and little research into new diagnostics and treatments is under way.

Measurement drives and directs action. As global targets have focused attention on viral suppression, attention to mortality has diminished. National programs generally do not collate or report data on causes of HIV-related deaths; we therefore lack reliable estimates of mortality and the true scale of deaths related to advanced HIV disease. Although these data are complex to capture, reliable measurement of AIDS-related deaths, disaggregated by major causes, needs to be at the heart of surveillance at the national, regional, and international levels. A better understanding of the primary causes of death may motivate funders and policymakers to strengthen systems for delivering the services required for preventing deaths associated with advanced HIV disease.

Neglect of advanced HIV disease is an unintended consequence of the global shift in objectives from treating the sickest people to treating all who are infected. Improved access to antiretroviral therapy is necessary for reducing deaths, but it is not sufficient. We believe donors should continue supporting CD4 testing for diagnosing advanced HIV and guiding diagnosis and treatment of opportunistic infections. For patients with advanced HIV, medicine urgently needs better tools focused on the diseases that are confirmed to be the most prevalent in the relevant setting, so that we can respond effectively to the main causes of illness and death.

39. N Engl J Med 2023; 389:2175-2187

Waterborne Diseases That Are Sensitive to Climate Variability and Climate Change

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Conclusions

Climate change has already intensified environmental turmoil, with substantial ramifications for health and health care systems,75 including increased risks of several waterborne diseases. These risks are projected to continue to increase in the near future, should the global community fail to take strong and immediate action to mitigate greenhouse-gas emissions and institute adaptive strategies. Climate-

proofing water treatment and distribution systems, as well as our health care delivery systems, is critical for preventing, preparing for, and managing climate-sensitive waterborne diseases.6,60 Beyond continued work on developing and better deploying vaccines and effective therapies for waterborne diseases, developing integrated early-warning systems with the use of climatic or environmental precursors of disease can help contain or prevent disease outbreaks.6,60 Finally, reducing waterborne diseases requires safe and equitable access to water and sanitation for all segments of the world's population, a goal that can be met by returning to basic public health principles, ensuring climate resilience in water infrastructure, and rapidly transitioning from our dependence on fossil fuels.

Pediatrics

40. Lancet. 2024 Feb 24;403(10428):756-765.Epub 2024 Feb 14.

Solar-powered O2 delivery for the treatment of children with hypoxaemia in Uganda: a stepped-wedge, cluster randomised controlled trial

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Background: Supplemental O2 is not always available at health facilities in low-income and middle-income countries (LMICs). Solar-powered O2 delivery can overcome gaps in O2 access, generating O2 independent of grid electricity. We hypothesized that installation of solar-powered O2 systems on the paediatrics ward of rural Ugandan hospitals would lead to a reduction in mortality among hypoxaemic children.

Methods: In this pragmatic, country-wide, stepped-wedge, cluster randomised controlled trial, solar-powered O2 systems (ie, photovoltaic cells, battery bank, and O2 concentrator) were sequentially installed at 20 rural health facilities in Uganda. Sites were selected for inclusion based on the following criteria: District Hospital or Health Centre IV with paediatric inpatient services; supplemental O2 on the paediatric ward was not available or was unreliable; and adequate space to install solar panels, a battery bank, and electrical wiring. Allocation concealment was achieved for sites up to 2 weeks before installation, but the study was not masked overall. Children younger than 5 years admitted to hospital with hypoxaemia and respiratory signs were included. The primary outcome was mortality within 48 h of detection of hypoxaemia. The statistical analysis used a linear mixed effects logistic regression model accounting for cluster as random effect and calendar time as fixed effect. The trial is registered at ClinicalTrials.gov, NCT03851783.

Findings: Between June 28, 2019, and Nov 30, 2021, 2409 children were enrolled across 20 hospitals and, after exclusions, 2405 children were analysed. 964 children were enrolled before site randomisation and 1441 children were enrolled after site randomisation (intention to treat). There were 104 deaths, 91 of which occurred within 48 h of detection of hypoxaemia. The 48 h mortality was 49 (5·1%) of 964 children before randomisation and 42 (2·9%) of 1440 (one individual did not have vital status documented at 48 h) after randomisation (adjusted odds ratio 0·50, 95% CI 0·27-0·91, p=0·023). Results were sensitive to alternative parameterisations of the secular trend. There was a relative risk reduction of 48·7% (95% CI 8·5-71·5), and a number needed to treat with solar-powered O2 of 45 (95% CI 28-230) to save one life. Use of O2 increased from 484 (50·2%) of 964 children before randomisation to 1424 (98·8%) of 1441 children after randomisation (p<0·0001). Adverse events were

similar before and after randomisation and were not considered to be related to the intervention. The estimated cost-effectiveness was US$25 (6-505) per disability-adjusted life-year saved.

Interpretation: This stepped-wedge, cluster randomised controlled trial shows the mortality benefit of improving O2 access with solar-powered O2. This study could serve as a model for scale-up of solar-powered O2 as one solution to O2 insecurity in LMICs.

41. Injury Prevention 2024;30(1):68-74

Effectiveness of prevention programmes on the rate of burn injuries in children: a systematic review

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Introduction: Burns are a frequent injury in children and can cause great physical and psychological impairment. Studies have identified positive effects of prevention measures based on increase in knowledge or reduction in hazards. The main goal of burn prevention campaigns, however, is to prevent burns. Therefore, this review is focused on the effectiveness of prevention programmes on the rates of burns in children.

Methods: A literature search was performed on PubMed, Embase, CINAHL, Web of Science, Google Scholar and Scopus, including a reference-check. Included were studies which evaluated burn prevention programmes in terms of burn injury rate in children up to 19 years old. Studies specifically focused on non-accidental burns were excluded as well as studies with only outcomes such as safety knowledge or number of hazards.

Results: The search led to 1783 articles that were screened on title and abstract. 85 articles were screened in full text, which led to 14 relevant studies. Nine of them reported a significant reduction in burn injury rate. Five others showed no effect on the number of burn injuries. In particular, studies that focused on high-risk populations and combined active with passive preventive strategies were successful.

Conclusion: Some prevention programmes appear to be an effective manner to reduce the number of burn injuries in children. However, it is essential to interpret the results of the included studies cautiously, as several forms of biases may have influenced the observed outcomes. The research and evidence on this subject is still very limited. Therefore, it is of great importance that future studies will be evaluated on a decrease in burns and bias will be prevented. Especially in low-income countries, where most of the burns in children occur and the need for effective prevention campaigns is vital.

Non communicable diseases

42. TMIH 2024;29(1):33-41

Impact of a free medication intervention on seizure recurrence and anxious and depressive symptoms in people living with epilepsy in the Republic of Guinea

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Background and objective: Of ~5 million people living with epilepsy (PLWE) in Sub-Saharan Africa, roughly one-third experience depression and over one third experience anxiety. In Guinea, these issues may be compounded by fewer available resources, such as appropriate anti-seizure medications (ASMs). We aim to quantify seizure frequency, anxiety and depression in PLWE in Guinea, before and after a free ASM intervention and neurologist's consultation.

Methods: Guinean participants >12 years old with ≥2 unprovoked seizure were prospectively recruited. As part of a broader interview, participants reported prior 30-day seizure frequency and screened for depression (PHQ-9) (range 0-27 points) and anxiety (GAD-7) (range 0-21 points) with re-evaluation at 90 days.

Results: Of 148 participants enrolled (mean age = 27.3 years, range 12-72; 45% female), 62% were currently taking ASMs. For the 30 days pre-enrolment, average seizure frequency was 3.2 (95%CI 2.3, 4.2); 28% of participants were seizure-free. ASM regimens were modified for 95% of participants, mostly initiating levetiracetam (n = 115, 80% of modifications). 90-day study retention was 76% (n = 113) among whom 87% reported full adherence to the ASM. After 90 days, the average seizure frequency over the prior 30 days was 1.5 (95%CI 0.5, 2.6), significantly lower than at baseline (p = 0.002). 66% were seizure-free. At baseline, average PHQ-9 score was 21.2 (95%CI [20.2, 22.2]), indicating severe depressive symptoms. Average GAD-7 score was 16.5 [15.6, 17.4], indicating severe anxious symptoms. At 90-days, average PHQ-9 score was 17.5[16.4, 18.5] and significantly lower than baseline (p < 0.001). Average GAD-7 score was 14.4 [13.6, 15.3] and significantly lower than baseline (p = 0.002). Seizure frequency was not correlated with PHQ-9 nor GAD-7 scores at baseline but was at 90 days for both PHQ-9 (r = 0.24, p = 0.01) and GAD-7 (r = 0.22, p = 0.02) scores. The prevalence of suicidal ideation dropped from 67% to 47% of participants (p = 0.004).

Discussion: ASM management has dual importance for PLWE in resource-limited settings, improving both seizure control and mental health.

43. J Cancer Educ 2024 Feb 9 Online ahead of print

Empowering Tomorrow's Cancer Specialists: Evaluating the Co-creation and Impact of Malawi's First Surgical Oncology Summerschool

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Annually more than 1 million newly diagnosed cancer cases and 500,000 cancer-related deaths occur in Sub Saharan Africa (SSA). By 2030, the cancer burden in Africa is expected to double accompanied by low survival rates. Surgery remains the primary treatment for solid tumours especially where other treatment modalities are lacking. However, in SSA, surgical residents lack sufficient training in cancer treatment. In 2022, Malawian and Dutch specialists co-designed a training course focusing on oncologic diseases and potential treatment options tailored to the Malawian context. The aim of this study was to describe the co-creation process of a surgical oncology education activity in a low resource setting, at the same time attempting to evaluate the effectiveness of this training program. The course design was guided and evaluated conform Kirkpatrick's requirements for an effective training program. Pre-and post-course questionnaires were conducted to evaluate the effectiveness. Thirty-five surgical and gynaecological residents from Malawi participated in the course. Eighty-six percent of respondents (n = 24/28) were highly satisfied at the end of the course. After a 2-month follow-up, 84% (n = 16/19) frequently applied the newly acquired knowledge, and 74% (n = 14/19) reported to have changed their patient care. The course costs were approximately 119 EUR per attendee per day. This course generally received generally positively feedback, had high satisfaction rates, and enhanced

knowledge and confidence in the surgical treatment of cancer. Its effectiveness should be further evaluated using the same co-creation model in different settings. Integrating oncology into the regular curriculum of surgical residents is recommended.

44. Psychol Med 2023;53(16):7473-83 doi: 10.1017/S0033291723002246

Psychotherapy for adult depression in low- and middle-income countries: an updated systematic review and meta-analysis

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Previous meta-analyses on psychotherapy for adult depression have found a larger treatment effect in non-Western trials compared to Western trials (i.e. North America, Europe, and Australia). However, factors contributing to this difference remain unclear. This study investigated different study characteristics between Western and non-Western trials and examined their association with effect size estimates. We systematically searched PubMed, PsycINFO, Embase, and Cochrane Library (01-09-2022). We included randomized-controlled trials (RCTs) that compared psychotherapy with a control condition. The validity of included RCTs was assessed by the Cochrane risk of bias assessment tool (RoB 1). Effect sizes were pooled using the random-effects model. Subgroup analyses and meta-regressions were also conducted. We identified 405 eligible trials, among which 105 trials (117 comparisons, 16 304 participants) were from non-Western countries. We confirmed that non-Western trials had a larger treatment effect (g = 1.10, 95% CI 0.90-1.31) than Western trials (g = 0.57, 95% CI 0.52-0.62). Trials from non-Western countries also had more usual care controls, higher risk of bias, larger sample sizes, lower mean ages, younger adults, more group-based interventions, and other recruitment methods (e.g. systematic screening; $p < 0.05$). The larger effect sizes found in non-Western trials were related to the presence of wait-list controls, high risk of bias, cognitive-behavioral therapy, and clinician-diagnosed depression ($p < 0.05$). The larger treatment effects observed in non-Western trials may result from the high heterogeneous study design and relatively low validity. Further research on long-term effects, adolescent groups, and individual-level data are still needed.

45. Bull World Health Organ. 2024 Jan 1; 102(1): 58–64

Addressing tobacco industry influence in tobacco-growing countries

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Protecting policy-making from tobacco industry influence is central to effective tobacco control governance. The inclusion of industry actors as stakeholders in policy processes remains a crucial avenue to corporate influence. This influence is reinforced by the idea that the tobacco industry is a legitimate partner to government in regulatory governance. Addressing the influence of the tobacco industry demands a focus on the government institutions that formalize relationships between industry and policy-makers. Industry involvement in government institutions is particularly relevant in tobacco-growing countries, where sectors of government actively support tobacco as an economic commodity. In this paper, we discuss how controlling tobacco industry influence requires unique consideration in tobacco-growing countries. In these countries, there is a diverse array of companies that support tobacco production, including suppliers of seeds, equipment and chemicals, as well as transportation, leaf buying and processing, and manufacturing companies. The range of companies that operate in

these contexts is particular and so is their engagement within political institutions. For governments wanting to support alternatives to tobacco growing (Article 17 of the Framework Convention for Tobacco Control), we illustrate how implementing Article 5.3, aimed at protecting tobacco control policies from tobacco industry interference, is fundamental in these countries. Integrating Article 5.3 with Article 17 will (i) strengthen policy coherence, ensuring that alternative livelihood policies are not undermined by tobacco industry interference; (ii) foster cross-sector collaboration addressing both tobacco industry interference and livelihood development; and (iii) enhance accountability and transparency in tobacco control efforts.

46. Bull World Health Organ. 2024 Mar 1; 102(3): 154–156.

Shedding light on occupational exposure to the sun (News, abridged)

Roughly one in three non-melanoma skin cancer deaths worldwide is associated with working outdoors in the sun. Gary Humphreys reports.

// It has long been understood that too much exposure to the sun is harmful, with landmark studies establishing the link between solar radiation and skin cancer dating back to the 1960s and 1970s.

Skin cancers break down into two groups: melanoma and non-melanoma (predominantly basal cell and squamous cell carcinoma); the non-melanoma skin cancers developing in the upper layers of the skin, beyond the melanocyte cells that produce skin pigment.

Because melanomas are more likely than non-melanomas to spread and cause serious illness and death, there is a general perception that the latter are less of a concern. However, non-melanoma skin cancers are far more common, and in absolute terms impose a similar or even larger burden of morbidity and mortality. According to the International Agency for Research on Cancer (IARC), there were a reported 332 000 new melanoma cases in 2022, for 59 000 deaths, compared with over 1.2 million reported non-melanoma cases for 69 000 deaths.

// However, as Sinclair is first to admit, the extent to which people choose to follow such guidance in their private lives is a matter of personal choice. The professional lives of outdoor workers are a different matter, as pointed out by doctor Frank Pega, an epidemiologist and health economist at the World Health Organization (WHO): “People can choose whether or not they go to the beach, but the agricultural worker who needs to put food on the table has to go into the field.”

And once in the field, despite their best efforts to cover up, such workers can be exposed to the sun’s ultraviolet rays for protracted periods. “Farmers who plant or harvest rice are likely exposed to the sun for many hours,” says Pega, “and even if they wear a hat, they’re likely to receive ultraviolet radiation reflected back from water in the flooded fields.”

// To improve our understanding of occupational exposure, in 2021 Pega and researchers at the International Labour Organization (ILO) carried out a systematic review and meta-analysis of the effect of occupational exposure to solar ultraviolet radiation on malignant skin melanoma and non-melanoma skin cancer.

The resulting report, which was published by WHO in December 2021, pooled 25 case-control studies with 286 131 participants living in 22 countries, and found evidence indicating that outdoor workers have a 60% increased risk of developing non-melanoma skin cancer, compared with indoor workers. The evidence regarding melanoma was judged insufficient to draw any conclusions.

The researchers went on to produce WHO/ILO joint estimates of the burden of non-melanoma skin cancer that can be attributed to occupational exposure to solar ultraviolet radiation, which were published in the November 2023 issue of Environment International, a peer-reviewed scientific journal.

“The report provides the first estimates of work-related skin cancer that we have globally,” says Pega, underlining the scope and depth of the data on which the report was based. “We were able to tap into 763 labour force surveys for 96 countries, comprising 166 million observations collected between 1996 and 2021,” he says.

Using that data, the researchers estimated cases of workplace exposure to solar ultraviolet radiation and instances of non-melanoma skin cancer across nearly 200 countries in 2000, 2010 and 2019.

// “Our findings suggest that sunlight is the third most burdensome occupational carcinogen, behind only asbestos fibres and silica dusts,” Pega says.

Another striking finding was that occupational skin cancer was more widely distributed than expected. “There has long been an assumption that populations in some regions are less affected,” says Pega, “but we found that it is as present in Africa as it is in the Americas, Europe, South-East Asia and the Western Pacific. So, it is really a global health issue.”

47. BMJ Global Health 2024;9:e014246. Analysis

Are we moving into a new era for alcohol policy globally? An analysis of the Global Alcohol Action Plan 2022-30

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The Global Alcohol Action Plan 2022-30 (GAAP) represents an important milestone in policy implementation at the global level on alcohol and health. There has, however, been little attention paid to the GAAP in the research literature. With a focus on the alcohol industry, this analysis examines the content of, and prospects for, the GAAP. It is clear why stronger action on alcohol and health is needed. The health harming nature of alcohol and policy interference by industry are now clearly understood. The alcohol industry is now thus regarded primarily as a key part of the problem. The GAAP calls for action in six areas with specific roles for public health actors, and invites powerful industry actors to desist from harmful activities, within each area. The broad outline of what is expected of the alcohol industry is now clear. It remains unclear, however, how far countries will continue to face formidable opposition from the major alcohol companies and their surrogates, in adopting and implementing evidence-based measures. Governments must now act at speed, and it is unclear if the targets set for 2030 will be met. If this long-running public health policy failure continues, this will have dire consequences for low and middle income countries where the alcohol market is expanding. Stronger actions may also be needed.

48. BMJ Global Health 2024;9:e014207. Commentary

Neglected cancer care needs among the nomadic pastoralist communities in sub-Saharan Africa: a call to action

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Inequalities in health exist between nomadic and settled populations and directly stem from an absence of tailored healthcare services for nomadic populations. Therefore, implementing cancer prevention, screening, diagnosis, treatment, palliative care and survivorship for nomads should be equally prioritised. A dynamic and adapted cancer approach that does not clash with the culture and lifestyle of nomads in SSA is urgently needed to improve cancer care compliance and outcomes of nomadic patients with cancer. Mobile health and One Health among nomadic patients with cancer are non-existent in Africa and speak to the enormous cancer care inequity, social, environmental, climate and healthcare injustice towards nomadic communities in SSA. Therefore, governmental policies and cancer control plans should explicitly address these gaps in countries with sizeable nomadic populations. The global oncology community should recognise the healthcare needs of African nomads and invest in cancer research and advocacy to improve equitable access to cancer care. Reaching the millions of nomads in SSA presents an opportunity for improving global health outcomes and moving towards sustainable development goals.

49. BMJ Global Health 2024;9:e013606. Original research

An interpretative phenomenological analysis of the lived experience of people with multimorbidity in low- and middle-income countries

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People living with multimorbidity (PLWMM) have multiple needs and require long-term personalised care, which necessitates an integrated people-centred approach to healthcare. However, people-centred care may risk being a buzzword in global health and cannot be achieved unless we consider and prioritise the lived experience of the people themselves. This study captures the lived experiences of PLWMM in low- and middle-income countries (LMICs) by exploring their perspectives, experiences, and aspirations.

We analysed 50 semi-structured interview responses from 10 LMICs across three regions—South Asia, Latin America, and Western Africa—using an interpretative phenomenological analysis approach.

The bodily, social, and system experiences of illness by respondents were multidirectional and interactive, and largely captured the complexity of living with multimorbidity. Despite expensive treatments, many experienced little improvements in their conditions and felt that healthcare was not tailored to their needs. Disease management involved multiple and fragmented healthcare providers with lack of guidance, resulting in repetitive procedures, loss of time, confusion, and frustration. Financial burden was exacerbated by lost productivity and extreme finance coping strategies, creating a vicious cycle. Against the backdrop of uncertainty and disruption due to illness, many demonstrated an ability to cope with their conditions and navigate the healthcare system. Respondents' priorities were reflective of their desire to return to a pre-illness way of life—resuming work, caring for family, and maintaining a sense of independence and normalcy despite illness. Respondents had a wide range of needs that required financial, health education, integrated care, and mental health support.

In discussion with respondents on outcomes, it appeared that many have complementary views about what is important and relevant, which may differ from the outcomes established by clinicians and researchers. This knowledge needs to complement and be incorporated into existing research and treatment models to ensure healthcare remains focused on the human and our evolving needs.

50. Emerg Infect Dis. 2024 Mar;30(3):568-571.

Bedaquiline Resistance after Effective Treatment of Multidrug-Resistant Tuberculosis, Namibia

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Bedaquiline is currently a key drug for treating multidrug-resistant or rifampin-resistant tuberculosis. We report and discuss the unusual development of resistance to bedaquiline in a teenager in Namibia, despite an optimal background regimen and adherence. The report highlights the risk for bedaquiline resistance development and the need for rapid drug-resistance testing.

51. BMJ Global Health 2024;9:e014722. Editorial

Incarceration and TB: the epidemic beyond prison walls

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Globally, incarceration is a well-documented risk factor for Mycobacterium tuberculosis infection and tuberculosis (TB) disease.1 Persons deprived of liberty (PDLs) in Latin America (LA) experience incidence rates of TB that are 26 times higher (95% CI 17.1 to 40.1) than those in the general population, and this disparity is the largest in the world.2 Over the last decade, the prison population in LA has more than doubled, which now has some of the highest incarceration rates in the world, has not been accompanied by concomitant improvements in physical or healthcare infrastructure, creating conditions for intensified TB transmission.

The heightened risk of TB has long been a part of the sentence received by PDLs. Every year that a PDL spends in prison increases their risk of developing TB. The cumulative risk of TB, although decreasing once a person is released from prison, consistently remains higher than the general population rates for years afterward. Studies indicate that prisons are an important driver of TB epidemics, whereby rising incarceration and high transmission rates in prisons are amplifying TB at the population level, undermining the progress of TB programmes in the general population.

Most national TB programmes (NTPs) in the LA region define PDLs as one of the high-risk populations (such as indigenous population, drug users, immigrants, among others). The percentage of TB cases occurring among PDLs is commonly reported in the performance indicators of NTPs. However, this indicator underestimates the true fraction of all TB cases that are attributable to prisons. The significant turnover of the incarcerated population, combined with long and variable TB latency periods, results in a considerable segment of individuals (ranging from 23% to 42%) who acquire TB infection in prison but only progress to disease once they are released. Even those who develop TB disease in prison may not be diagnosed until after release from prison, due to underdetection in prisons. History of incarceration is typically not an element of notification databases, so cases occurring in the community among individuals with prior incarceration are not currently recognised by the NTPs as being related to prisons. Moreover, there is evidence from molecular epidemiology studies indicating that genomic clusters of TB occurring in the community are shared among individuals with and without incarceration history, suggesting onward community transmission of prison-related cases.

52. Health Policy and Planning, Jan 2024, Vol 39 (1): 4-21

The redistributive effect of the public health system: the case of Sierra Leone

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Universal health coverage (UHC), health equity and reduction of income inequalities are key objectives for the Sierra Leone government. While investing in health systems may drive economic growth, it is less clear whether investing in health systems reduces income inequality. Therefore, a crucial issue is to what extent the Sierra Leone public healthcare system reduces income inequality, and finances and provides healthcare services equitably. We use data from the Sierra Leone Integrated Household Survey 2018 to complete a financing and benefit incidence analysis of the Sierra Leone public healthcare system. We extend these analyses by assessing the redistributive effect of the public healthcare system (i.e. fiscal incidence analysis). We compute the redistributive effect as the change in Gini index induced by the payments for, and provision of, public healthcare services. The financing incidence of the Sierra Leone public healthcare system is marginally progressive (i.e. Kakwani index: 0.011*, P-value <0.1). With regard to public healthcare benefits, while primary healthcare (PHC) benefits are pro-poor, secondary/tertiary benefits are pro-rich. The result is that overall public healthcare benefits are equally distributed (concentration index (CI): 0.008, not statistically different from zero). However, needs are concentrated among the poor, so benefits are pro-rich when needs are considered. We find that the public healthcare system redistributes resources from better-off quintiles to worse-off quintiles (Gini coefficient reduction induced by public healthcare system = 0.5%). PHC receives less financing than secondary/tertiary care but delivers a larger reduction in income inequality. The Sierra Leone public healthcare system redistributes resources and reduces income inequality. However, the redistributive effect occurs largely thanks to PHC services being markedly pro-poor, and the Sierra Leone health system could be more equitable. Policy-makers interested in improving Sierra Leone public health system equity and reducing income inequalities should prioritize PHC investments.

53. Health Policy and Planning Vol 39, Issue Supplement_1, January 2024

Rethinking External Assistance for Health, Editorial abridged.

Motivation

As we revisited our April 2022 announcement of this special issue on Rethinking External Assistance for Health, we were struck by the increasing relevance of the themes that were raised. We are no longer speaking about the potential effects of the economic crisis triggered by COVID-19, but rather how countries and households are now experiencing the realities of fiscal tightening, increased sovereign debt, inflation and shifting geopolitics.

Reflecting these pressures and changing dynamics, questions around the functions of external assistance for health and the forms it takes are high on the agendas of both donors and recipient countries. Structural issues around the long-term sustainability of donor-supported expansions in service coverage have been elevated. For example, the Future of Global Health Initiatives process is galvanizing voices of Southern stakeholders, together with donors and technical partners, to call for shifts in how external assistance for health is operationalized to support sustainable, country-led system strengthening efforts . The ‘decolonizing global health’ movement challenges us to consider the

rationale for external assistance and how it is delivered, arguing that aid should support and complement national priorities, not those set in Washington or Geneva. Considering power dynamics and representation within the governance of external assistance for health forces questions about its future role and the form it should take, alongside deeper understanding of how historical context shapes current systems and dynamics.

There is clear urgency behind these questions as we see the world off-track to meet most of the health-related Sustainable Development Goals (SDGs). The recently released Universal Health Coverage Global Monitoring Report 2023 underscores this lack of progress, showing that service coverage improvements have stagnated since 2015 and the proportion of people facing catastrophic levels of out-of-pocket health spending continued to increase through 2019, even before the impacts of COVID-19 began to be felt. This lack of progress is seen despite vast increases in external assistance for health between 2000 and 2020, in particular for disease-specific areas. These worrying trends coupled with larger global macroeconomic and social forces raise several questions about the future of external assistance for health.

Still rethinking

The 13 research articles, innovation and practice reports and commentaries presented in this supplement provide concrete examples, ideas and reflections that add to our understanding of external assistance for health. They are timely, evidence-informed and relevant to both country- and global-level agendas. They build on an already-strong foundation of evidence and policies around the issues of alignment, country-driven approaches and de-verticalization.

The articles presented in this supplement dig into the structural and political underpinnings of external assistance for health that affect its effectiveness in supporting sustainable outcomes. In doing so, they provide important signposts in terms of best practices and lessons learned from problem areas. They present new, carefully researched experiences in transitioning away from external assistance for health, together with explicit analysis of the politics of external assistance for health, at both the country and donor levels. While adding to the evidence base, important gaps remain in terms of how to reform external assistance for health. In particular, there is a need for further research to understand how to: (i) make donors accountable to the ultimate beneficiaries of external assistance; (ii) develop viable strategies to increase domestic investments for health; (iii) overcome entrenched interests at both the donor and country levels that may be resistant to change in the face of demographic, epidemiological and economic shifts; and (iv) understand and differentiate between ‘global’ and ‘local’ representatives of global agencies; as well as many other areas.

Issue titles:

Commentary: When one size does not fit all: aid and health system strengthening for Small Island Developing States

ORIGINAL RESEARCH

Adapting national data systems for donor transition: comparative analysis of experience from Georgia and China

The impact of shifts in PEPFAR funding policy on HIV services in Eastern Uganda (2015–21)

Factors impacting sustained coverage in the context of donor transitions: experience from Sri Lanka

Managing transitions from external assistance: cross-national learning about sustaining effective coverage

Understanding China's shifting priorities and priority-setting processes in development assistance for health

Making development assistance work for Africa: from aid-dependent disease control to the new public health order

Leveraging global investments for polio eradication to strengthen health systems' resilience through transition

HIV programme sustainability in Southern and Eastern Africa and the changing role of external assistance for health

INNOVATION AND PRACTICE REPORT

Donor coordination to support universal health coverage in Malawi

Enabling cross-country learning and exchange to support universal health coverage implementation

Sustaining essential health services in Lao PDR in the context of donor transition and COVID-19

External technical assistance and its contribution to donor transition and long-term sustainability: experience from China and Georgia

54. Health Policy and Planning, March 2024, Vol 39 (2): 224-232

First referral hospitals in low- and middle-income countries: the need for a renewed focus

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First referral hospitals (FRHs) are the hospitals closest to the community, which offer expertise or technologies to complement more widely available 'basic' ambulatory care or inpatient care. Despite having been a subject of interest in global health policy in the latter half of the 20th century, in more recent decades, they appear to have been overshadowed. This paper reviews what is understood by FRH, drawing on both academic and policy literature, complemented by specific country case studies. We undertook three reviews: a grey literature review of global and regional policy reports and documents, a structured review of the academic literature on FRH and a review of FRH-related policies in eight countries. Our findings indicate that there is confusion regarding the definitions and roles of FRH; they have fallen off the policy agenda globally and they suffer from lack of advocates in part related to the absence of cohesive definition. Meanwhile, these facilities continue to fulfil important functions in health systems in low- and middle-income countries, and expectations for service delivery remain high. In light of these findings, this paper calls for renewed interest and investment in FRH from the global health academic and policy-making community.

55. BMJ Global Health 2024;9:e014140. Original research

Data-driven decision-making for district health management: a cluster-randomised study in 24 districts of Ethiopia

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Background Use of local data for health system planning and decision-making in maternal, newborn and child health services is limited in low-income and middle-income countries, despite decentralisation and advances in data gathering. An improved culture of data-sharing and collaborative planning is needed. The Data-Informed Platform for Health is a system-strengthening strategy which promotes structured decision-making by district health officials using local data. Here, we describe implementation including process evaluation at district level in Ethiopia, and evaluation through a cluster-randomised trial.

Methods We supported district health teams in 4-month cycles of data-driven decision-making by: (a) defining problems using a health system framework; (b) reviewing data; (c) considering possible solutions; (d) value-based prioritising; and (e) a consultative process to develop, commit to and follow up on action plans. 12 districts were randomly selected from 24 in the North Shewa zone of Ethiopia between October 2020 and June 2022. The remaining districts formed the trial's comparison arm. Outcomes included health information system performance and governance of data-driven decision-making. Analysis was conducted using difference-in-differences.

Results 58 4-month cycles were implemented, four or five in each district. Each focused on a health service delivery challenge at district level. Administrators' practice of, and competence in, data-driven decision-making showed a net increase of 77% (95% CI: 40%, 114%) in the regularity of monthly reviews of service performance, and 48% (95% CI: 9%, 87%) in data-based feedback to health facilities. Statistically significant improvement was also found in administrators' use of information to appraise services. Qualitative findings also suggested that district health staff reported enhanced data use and collaborative decision-making.

Conclusions This study generated robust evidence that 20 months' implementation of the Data-Informed Platform for Health strengthened health management through better data use and appraisal practices, systemised problem analysis to follow up on action points and improved stakeholder engagement.