

International Health Alerts 2026-2 Contents

Child health

[1. BMJ 2026;392:s499](#)

Opinion

Measles: children and vulnerable communities face disproportionate harms

Other papers about this subject:

* BMJ 2026;393:s819

Opinion. Measles is resurging in Bangladesh—but this outbreak was entirely preventable

* JAMA

2026;335(23):1999-2000

More Than 19 000 Measles Cases in a Month-What the Current Outbreak in Bangladesh Signals to the World

[2. Lancet](#)

[2026;407\(10536\):1360-73](#)

Global burden of cancer in children and adolescents aged 0-19 years, 1990-2023: a systematic analysis for the Global Burden of Disease Study 2023

Other paper about this subject:

* Lancet

2026;407(10536):1335-59

Progress towards the WHO Global Initiative for Childhood Cancer target of 60% 5-year survival for all childhood cancers combined, 1990-2019

(CONCORD-4): a Cancer Survival Index derived for 68 countries by analysis of individual records for 613 021 children from 307 population-based cancer registries

Conflicts and Humanitarian Crises

[3. BMJ Global Health](#)

[2026;11:e022320](#)

Complementary role of humanitarian civil society organisations in bridging gaps in immunisation programming in conflict and crisis-affected settings: the REACH Project experience

[4. Lancet](#)

[2026;407\(10534\):1131-4](#)

World Report

Health and war in Sudan

Fresh atrocities are feared in Sudan as health and humanitarian crisis worsens amid global neglect

[5. Lancet](#)

[2026;407\(10543\):2065-2140](#)

Johns Hopkins Center for Humanitarian Health—

Lancet Commission on health, conflict, and forced displacement: health in a world of crises and impunity

[6. Lancet Glob Health](#)

[2026;14\(4\):e552-e559](#)

Violent and non-violent death tolls for the Gaza conflict: new primary evidence from a population-representative field survey

[7. Think Global Health](#)

[2026;March 20](#)

Where the Iran War Could Disrupt Pharmaceutical Supply Chains

Gender

[8. HPP 2026;41\(5\):913-21](#)

Toward a common lexicon in gender analysis for global health programs and policies

Health Policy / Health Finances

[9. HPP 2026;41\(5\):715-8](#)

Editorial

The Health Systems

Research section: scope and future

[10. Lancet](#)

[2026;407\(10540\):1676-7](#)

Myopic medical harm: a man receives free colon cancer screening in Ghana

[11. Lancet Glob Health](#)

[2026;14\(4\):e589-e597](#)

Powering health with energy in low-income and middle-income countries

[12. Lancet Glob Health](#)

[2026;14\(5\):e690-e701](#)

Impact of two decades of humanitarian and development assistance and the projected mortality consequences of current defunding to 2030: retrospective evaluation and forecasting analysis

[13. Lancet Glob Health](#)

[2026;Jun 4:103965](#)

Global, regional, and national impact of the Expanded Programme on Immunization against 14 pathogens from 1974 to 2024: an economic evaluation

[14. PLoS Med](#)

[2026;23\(3\):e1004961](#)

Perspective: From crisis response to country control: Restoring agency and sustainability in global health

**Infectious Diseases
(Malaria and
Tuberculosis: see below)**

[15. JAMA
2026;335\(21\):1879-92](#)
Hepatitis B: A Review

[16. N Engl J Med 2026;Jun
17](#)
The Social Contract of
Bundibugyo Ebola Isolation

[17. Lancet Microbe
2026;7\(6\):101458](#)
Editorial
The hidden burden of
schistosomiasis in women
and girls

[18. PLoS Med
2026;23\(4\):e1005068](#)
Perspective: Optimizing
dengue vaccination
strategies

Malaria

[19. Am J Trop Med Hyg
2026;114\(4\):680-9](#)
Impacts of Seasonal Mass
Drug Administration in
School-Aged Children on
Chronic Malaria Infections
in Burkina Faso

[20. JAMA
2026;335\(18\):1575-7](#)
Long-Term Neurocognitive
Outcomes After Severe
Malaria Infection: No Peace
of MIND

Mental Health

[21. BMJ Global Health
2026;11:e022058](#)
Unignorable burden of
mental health disorders
among adolescents in sub-
Saharan Africa: a call for
urgent action

[22. Glob Ment Health
\(Camb\)
2026;May13:13:e115](#)
Experiences, needs, and
priorities of family
caregivers of people with
severe mental health
conditions in low and
middle-income countries: a
systematic review of
qualitative studies

[23. Glob Ment Health
\(Camb\)
2026;May20:13:e119](#)
Barriers and Facilitators to
Sexual and Reproductive
Healthcare Access for
Women with Severe Mental
Illness in Low- and Middle-
Income Countries: A
Qualitative Systematic
Review and Meta-
Aggregation

[24. Lancet
2026;407\(10543\):2040-64](#)
Updated trends in the global
prevalence and burden of
mental disorders, 1990-
2023: a systematic analysis
for the Global Burden of
Disease Study 2023

**Non-communicable
Diseases**

[25. Health Policy Watch
2026;8 June](#)
Five Years After Landmark
Diabetes Initiative: Cause
To Celebrate But Even
More To Accomplish

Ophthalmology

[26. Am J Ophthalmol
2026;285:120-31](#)
Global, Regional, and
National Burden of
Blindness and Vision Loss
in Individuals Aged 0 to 24
Years, 1990 to 2021:
Divergent Trends,
Inequalities and Projections

Based on Global Burden of
Disease 2021

Pharmaceuticals / AMR

[27. Bull World Health
Organ 2026;104\(5\):287–
287A](#)
Editorial
Improving national
alignment to mark 50 years
of WHO's essential
medicines lists

[28. HPP 2026;41\(5\):898-
912](#)
Pain, policy, and the opioid
dilemma in sub-Saharan
Africa: a systematic review
of access, regulation, and
health governance from
1990 to 2024

[29. Health Policy Watch
2026;May 5](#)
WHA Member States
Approve Antimicrobial
Resistance Strategy After
Resolving Tech Transfer
Debate

[30. Lancet
2026;407\(10535\):1220-1](#)
World Report
Building momentum at the
African Medicines Agency

[31. Lancet Glob
Health.2026;14\(4\):e524-
e538](#)
Strategies to reduce
antimicrobial resistance in
newborns in low-income
and middle-income
countries: a systematic
review and meta-analysis

[32. PLoS Med
2026;23\(2\):e1004941](#)
Better, not just fewer:
Rethinking antibiotic
prescribing

Primary Health Care

[33. HPP 2026;41\(5\):831-48](#)

Primary health care—oriented reforms: the political economy dynamics underlying health-system shifts across nine countries

Sexual Reproductive Health and Rights

[34. BMJ Global Health 2026;11:e020597](#)

Costs and benefits of replacing preventive antenatal iron and folic acid with multiple micronutrients in 25 low- and middle-income countries

[35. BMJ Global Health 2026;11:e023363](#)

Aligning neonatal sepsis triage diagnostics with WHO target product profiles in low- and middle-income countries

[36. BMJ Global Health 2026;11:e020883](#)

Feasibility, acceptability and effectiveness of group antenatal care on maternal health continuum of care and perinatal outcomes in

sub-Saharan Africa: a systematic review and meta-analysis

[37. Lancet Glob Health 2026;14\(4\):e560-e569](#)

The effect of tranexamic acid during childbirth on maternal mortality: an epidemiological modelling and cost-effectiveness study

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* BMJ 2026;393:s818

Editorial. Tranexamic acid for preventing severe bleeding in caesarean births

[38. Lancet Glob Health 2026;14\(5\):e702-e713](#)

Measuring antenatal care timing and content across 131 low-income and middle-income countries, 1995-2023: a systematic analysis of trends

[39. PLoS Med](#)

[2026;23\(4\):e1004994](#)

Identifying novel prodromal symptoms of eclampsia: A two-country, case-control study

[40. PLoS Med](#)

[2026;23\(4\):e1005055](#)

Quality of antenatal and delivery care and postnatal care use: A multi-country observational study of 400,000 births

Tuberculosis

[41. JAMA](#)

[2026;335\(18\):1565](#)

WHO Releases New Tuberculosis Testing Guidelines

Miscellaneous

[42. Lancet Glob Health 2026;Jun 3:103994](#)

WHO estimates of the global, regional, and national burden of 42 foodborne infectious and chemical hazards, 2000-21: an updated data synthesis

International Health Alerts 2026-2 Abstracts

Child health

1. BMJ 2026;392:s499

Opinion

Measles: children and vulnerable communities face disproportionate harms

Ramalingam B.

(Abbreviated)

Public health leadership rooted in equity and rights is needed to avoid future outbreaks, writes Ben Ramalingam

The recent measles outbreaks across the UK, US, and Europe are more than a series of vaccination failures. They are warnings of deeper public health breakdowns—in immunity, service coverage, and, importantly, trust. These outbreaks are a “canary in a coal mine” for inequities and weaknesses in healthcare systems.

Measles is not only a biomedical event; it is a manifestation of complex inequalities and socioeconomic dynamics that disproportionately harm children and vulnerable communities.

The World Health Organization confirmed that the UK lost its measles elimination status in January 2026, meaning that measles has become endemic in the UK. This was not unexpected. Uptake of the measles, mumps, and rubella (MMR) vaccine has fallen well below the 95% needed to prevent sustained transmission. Last year, only 83.7% of 5 year olds in England received both MMR doses.

The global picture also reinforces this. Last year WHO and Unicef reported that in 2024 more than 30 million children were under-protected from measles. Large measles outbreaks occurred in 60 countries in 2024—almost double the 33 countries in 2022. They were concentrated in fragile, conflict affected, and vulnerable settings, disproportionately affecting children and communities already facing poverty, health exclusions, and displacement.

Adaptive leadership is needed.

Overcoming past failures requires more than alarmist messaging or temporary emergency campaigns detached from routine healthcare. It requires systemic adaptive public health leadership. For measles, this requires five immediate actions.

Firstly, responses must be led by local reality, not national averages.

Secondly, vaccine access must be designed around the needs and rights of children, families, and communities.

Thirdly, trust in healthcare and vaccines must be treated as a core public health capability.

Fourthly, outbreak response must be integrated with routine health system strengthening.

Finally, learning requires adaptation and accountability. Public health teams should be judged not only on meeting target vaccine coverage numbers, but on how quickly and effectively they identify underserved groups and close coverage gaps.

Other papers about this subject:

* BMJ 2026;393:s819

Opinion. Measles is resurging in Bangladesh—but this outbreak was entirely preventable

* JAMA 2026;335(23):1999-2000

More Than 19 000 Measles Cases in a Month-What the Current Outbreak in Bangladesh Signals to the World

2. Lancet 2026;407(10536):1360-73

Global burden of cancer in children and adolescents aged 0-19 years, 1990-2023: a systematic analysis for the Global Burden of Disease Study 2023

GBD 2023 Childhood Cancer Collaborators. Correspondence to LM Force <lforce@uw.edu>

Background: Information on childhood cancer burden is crucial for effective cancer policy planning.

Unfortunately, observed paediatric cancer data are not available in every country, and previous global

burden estimates have not discretely reported several common cancers of childhood. We aimed to inform efforts to address childhood cancer burden globally by analysing results from the Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) 2023, which now include nine additional cancer causes compared with previous GBD analyses.

Methods: GBD 2023 data sources for cancer estimation included population-based cancer registries, vital registration systems, and verbal autopsies. For childhood cancers (defined as those occurring at ages 0-19 years), mortality was estimated using cancer-specific ensemble models and incidence was estimated using mortality estimates and modelled mortality-to-incidence ratios (MIRs). Years of life lost (YLLs) were estimated by multiplying age-specific cancer deaths by the standard life expectancy at the age of death. Prevalence was estimated using survival estimates modelled from MIRs and multiplied by sequelae-specific disability weights to estimate years lived with disability (YLDs). Disability-adjusted life-years (DALYs) were estimated as the sum of YLLs and YLDs. Estimates are presented globally and by geographical and resource groupings, and all estimates are presented with 95% uncertainty intervals (UIs).

Findings: Globally, in 2023, there were an estimated 377 000 incident childhood cancer cases (95% UI 288 000-489 000), 144 000 deaths (131 000-162 000), and 11·7 million (10·7-13·2) DALYs due to childhood cancer. Deaths due to childhood cancer decreased by 27·0% (15·5-36·1) globally, from 197 000 (173 000-218 000) in 1990, but increased in the WHO African region by 55·6% (25·5-92·4), from 31 500 (24 900-38 500) to 49 000 (42 600-58 200) between 1990 and 2023. In 2023, age-standardised YLLs due to childhood cancer were inversely correlated with country-level Socio-demographic Index. Childhood cancer was the eighth-leading cause of childhood deaths and the ninth-leading cause of DALYs among all cancers in 2023. The percentage of DALYs due to uncategorised childhood cancers was reduced from 26·5% (26·5-26·5) in GBD 2017 to 10·5% (8·1-13·1) with the addition of the nine new cancer causes. Target cancers for the WHO Global Initiative for Childhood Cancer (GICC) comprised 47·3% (42·2-52·0) of global childhood cancer deaths in 2023.

Interpretation: Global childhood cancer burden remains a substantial contributor to global childhood disease and cancer burden and is disproportionately weighted towards resource-limited settings. The estimation of additional cancer types relevant in childhood provides a step towards alignment with WHO GICC targets. Efforts to decrease global childhood cancer burden should focus on addressing the inequities in burden worldwide and support comprehensive improvements along the childhood cancer diagnosis and care continuum.

Other paper about this subject:

* Lancet 2026;407(10536):1335-59

Progress towards the WHO Global Initiative for Childhood Cancer target of 60% 5-year survival for all childhood cancers combined, 1990-2019 (CONCORD-4): a Cancer Survival Index derived for 68 countries by analysis of individual records for 613 021 children from 307 population-based cancer registries

Conflicts and Humanitarian Crises

3. BMJ Global Health 2026;11:e022320

Complementary role of humanitarian civil society organisations in bridging gaps in immunisation programming in conflict and crisis-affected settings: the REACH Project experience
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Ensuring immunisation coverage in Fragile and Conflict-Affected Settings (FCAS) remains a critical global health challenge. National Immunisation Programmes (NIPs) are unable to provide programming in some areas because of conflict and insecurity or the destruction of healthcare infrastructure. Humanitarian civil society organisations (CSOs) can fill those programming gaps, but they need to be able to do so promptly and effectively. This paper presents an analysis of gaps experienced by NIPs across the REACH Project, funded by Gavi to immunise 'zero-dose' children (children who did not receive any diphtheria-tetanus-pertussis-containing vaccine) in FCAS in Ethiopia, Somalia, South Sudan and Sudan. We offer insights that can be used by humanitarian and

immunisation CSOs that aim to overcome the challenges that NIPs face in these settings in ways that are truly complementary and not substituting for what NIPs could achieve.

The NIP contributions were categorised as ‘No NIP Contribution’, ‘Limited NIP: Geographic Limitations’, ‘Limited NIP: Functional Limitations’ and ‘Limited NIP: Transitioning Contexts’ reflecting the nature and extent of NIP contributions. Based on NIP contribution context, humanitarian CSOs filled immunisation programming gaps by working with NIPs in complementary ways to re-establish or extend immunisation services and by using conflict-sensitive approaches to support immunisation programming. Different conflict-sensitive programmatic adaptations were critical based on the needs in each context.

Despite variable NIP contribution levels, collaboration between NIPs and humanitarian CSOs was vital to the success of REACH. The REACH Project demonstrates how to effectively adapt immunisation programming within a context-specific hybrid NIP-humanitarian CSO model in FCAS.

4. Lancet 2026;407(10534):1131-4

World Report

Health and war in Sudan

Fresh atrocities are feared in Sudan as health and humanitarian crisis worsens amid global neglect
Devi S.

(Abbreviated)

Aid and rights groups regularly describe Sudan as the largest humanitarian emergency in the world, but the country continues to suffer neglect in terms of global will to end the conflict and the funding of aid.

The numbers are staggering: an estimated 33·7 million people, or about two-thirds of the population, are expected to need humanitarian assistance this year, and 21 million face acute food insecurity.

Around 13·6 million people are displaced from their homes, making Sudan the largest displacement crisis in the world. More than 20 million people now require health assistance, but more than a third of health facilities are non-functional, says WHO. There is no accurate overall death toll, but estimates range between 150 000 and 400 000. More than 12 million people—women, girls, boys, and men—are at risk of rape and sexual assault because of displacement and insecurity, says UNICEF.

Delivering health has become increasingly dangerous. WHO has verified 201 attacks on health care in Sudan between April, 2023, and December, 2025, resulting in 1858 deaths and 490 injuries. Last October, the Saudi Maternity Hospital, which was the only partially functioning hospital in El Fasher, was shelled and attacked, killing more than 460 patients and their companions, and six health workers were abducted. The attack and killings were filmed by RSF fighters and posted to social media, but the RSF denied it was responsible.

Genocidal intent was “the only reasonable inference” from the RSF’s “systematic pattern of ethnically targeted killings, sexual violence, destruction, and public statements explicitly calling for the elimination of non-Arab communities”, said the UN Independent Fact-Finding Mission for the Sudan in a report released on Feb 19. The mission warned that as the conflict expanded to other regions including Kordofan, urgent civilian protection is needed “now more than ever”.

The effective collapse of the state has prompted the emergence of Sudanese mutual aid groups and volunteer networks, in particular the Emergency Response Rooms (ERRs) network, which has twice been nominated for the Nobel Peace Prize.

It evolved from neighbourhood-based service committees and then resistance committees—during the revolution that overthrew President Omar al-Bashir in 2019—to become a network of about 26 000 volunteers who provide food and medical care across Sudan. The volunteers are impartial and non-political, but they are often viewed with suspicion by the warring parties. At least 145 volunteers have been killed and many others arrested or disappeared, so many work under the radar without informing their family or friends.

ERRs also provide health services during epidemics such as cholera, run safe spaces for survivors of sexual violence, help Sudanese people to find vehicles to flee from active conflict, and provide communal kitchens to feed displaced people.

In some parts of Sudan, as much as 80% of health facilities are not functioning, and infrastructure including water and electricity has been destroyed as the country faces repeated outbreaks of malaria, cholera, measles, and dengue.

The conflict has meant that Sudan's Federal Ministry of Health has been unable to prevent a plummeting in routine vaccination. Diphtheria, tetanus, and pertussis (DTP1) coverage dropped from 94% in 2022 to 48% in 2024, according to data published by WHO and UNICEF.

Médecins Sans Frontières (MSF) warned in December that measles cases are also rising rapidly across Central, South, and West Darfur, in the absence of an urgent and effective vaccination campaign.

Malaria has reached epidemic proportions and, even before the conflict, it accounted for more than 41% of cases in the WHO Eastern Mediterranean region. WHO, with other UN agencies, launched the first malaria vaccination campaign in Sudan in 2024.

The collapse of health systems, critical water shortages, and the breakdown of basic services are compounding the crisis, fuelling deadly disease outbreaks and placing an estimated 3·4 million children under 5 at risk.

Women are the main victims of sexual violence and abuse, and many are abducted to be held as slaves, whereas others are trafficked across Sudan's borders.

5. Lancet 2026;407(10543):2065-2140

Johns Hopkins Center for Humanitarian Health–Lancet Commission on health, conflict, and forced displacement: health in a world of crises and impunity

The Lancet Commissions. Correspondence to P Spiegel <pbspiegel@jhu.edu>

(Abbreviated)

Both health and human rights are being dismantled globally in plain sight and with escalating impunity, driven by geopolitical fragmentation, erosion of the rule of law, and transactional approaches to aid and security that undermine protection and accountability.

International law and humanitarian principles are increasingly violated with impunity, and civilians are bearing the cost.

Humanitarian needs have outpaced a politicised, fragile, and structurally inadequate funding model. In 2025, the Global Humanitarian Overview was cut mid-year from US\$44 billion to \$29 billion, with only 55% funded by year's end. For 2026, a downsized and hyperprioritised Overview seeks \$33 billion, of which \$23 billion is required to meet the most life-threatening needs. For scale, this is equivalent to roughly 1% of annual global military expenditure.

The consequences for population health are immediate and cumulative. In conflict and displacement settings, excess mortality is driven less by direct violence than by the breakdown of essential health services, public health functions, and the social determinants of health. Disruptions to vaccination, primary care, maternal and newborn services, and to the continuity of care for chronic conditions turn manageable illness into preventable disability and death. With advances in medicine, public health, and technology, these outcomes are avoidable in the 21st century, yet persist because inequity, weakened political commitment, and sustained underinvestment have eroded the systems needed to prevent, absorb, and recover from shocks.

The result is predictable: international law is stripped of consequence, humanitarian principles are selectively applied, and survival is deliberately rationed rather than guaranteed on the basis of rights and need.

This Commission has three core objectives: to diagnose the systemic barriers and enabling conditions shaping humanitarian health action, to centre the priorities and dignity of communities affected by conflict and forced displacement as the primary reference point for change, and to deliver evidence-informed, forward-looking recommendations grounded in realism and ambition. These objectives are pursued with urgency. This Commission is not another call to do better; it is a demand to do differently, and to do so now. Decades of diagnoses, frameworks, and pledges have failed to halt deepening crises, expanding impunity, and collapsing political commitment. The 2026 Global Humanitarian Overview confirms that even at maximum ambition, the system now operates as survival triage rather than universal protection. In this moment, incremental reform is not only inadequate; it is dangerous.

This Commission advances a bold, integrated, sequenced, and execution-oriented programme for transformation, grounded in a deliberate shift of power and resources toward affected populations and locally legitimate actors.

Communities are placed at the centre, and protection, accountability, climate risk, and ethical obligations are treated as non-negotiable. Decolonisation is made practical through localisation with authority.

This Commission translates this framework into action through five strategic drivers: international law, humanitarian principles, governance, financing, and health systems. Each driver includes actionable recommendations designed to convert commitments into enforceable change in contexts marked by political resistance, coercion, and impunity.

This Commission's conceptual framework and context-specific decision matrix, together with recommendations specific to each of the five strategic drivers, underpin actionable logic that is deliberately sequenced.

This Commission has purposefully designed these recommendations through a multisectoral lens, grounded in the experience of practitioners and people affected by conflict and forced displacement, to address the dual challenge of escalating humanitarian need and a humanitarian health system that is no longer fit for purpose, nor sustainable.

This Commission's analysis and recommendations are directed to states, non-state actors, donors, multilateral institutions, and humanitarian, health, and local leaders whose decisions determine whether protection, care, and accountability are realised or denied for populations affected by armed conflict and forced displacement.

This Commission proposes four core interdependent recommendations for system change in humanitarian action:

Invert the power. Shift governance, funding, and decision-making to affected communities and locally legitimate actors, and transform existing humanitarian structures.

End impunity. Enforce accountability to affected populations through law, ethics, humanitarian principles, and action, recognising accountability as a continuous function across governance, financing, coordination, and implementation.

Fix the money. Ensure humanitarian financing is needs-based, fair, flexible, and supports locally accountable decision-making, driving equitable health outcomes and protecting resource allocation from political distortion.

Uphold health for all as a non-negotiable right. Deliver equitable, safe, climate-resilient, and locally anchored health care in crisis settings, with targeted approaches for populations facing heightened risks and vulnerabilities.

6. Lancet Glob Health 2026;14(4):e552-e559

Violent and non-violent death tolls for the Gaza conflict: new primary evidence from a population-representative field survey

Spagat M et al., Department of Economics, Royal Holloway University of London, Egham, UK
<m.spagat@rhul.ac.uk>

Background: High-quality mortality estimates are crucial for understanding the human cost of conflict. The Gaza Ministry of Health (MoH) has provided regular updates to their violent death toll for the Gaza Strip following Oct 7, 2023, but these reports have attracted both criticism and support.

Independent estimates of both violent and non-violent deaths were needed.

Methods: We conducted a population-representative household survey, the Gaza Mortality Survey, between Dec 30, 2024, and Jan 5, 2025. We surveyed 2000 households across 200 primary sampling units, documenting the vital status of 9729 household members as of Oct 6, 2023, plus newborns. The sample was stratified by dwelling type and Governorate of origin. We used raking procedures to adjust for demographic characteristics and calculated confidence intervals using Taylor series linearisation. Sampling occurred in accessible areas, with displaced populations representing inaccessible Governorates.

Findings: We estimated 75 200 violent deaths (95% CI 63 600-86 800) between Oct 7, 2023, and Jan 5, 2025, representing approximately 3·4% of the Gaza Strip's pre-conflict population. Women, children (ie, younger than 18 years), and older people (ie, older than 64 years) comprised 56·2% (95%

CI 50·4-61·9) of violent deaths, totalling 42 200 deaths (95% CI 33 100-51 300). We also estimated 16 300 non-violent deaths (12 300-20 200), of which 8540 (4540-12 500) represent excess deaths above pre-conflict projections. The MoH figure for this period (49 090 violent deaths) was 34·7% below our central estimate.

Interpretation: This first independent population survey of mortality in the Gaza Strip shows that violent deaths have substantially exceeded official figures whereas the demographic composition of casualties aligns with MoH reporting. Non-violent excess deaths, although substantial, are lower than some projections have suggested. These findings show the feasibility of mortality surveillance in active conflict zones and provide crucial empirical foundations for assessing the true human cost of the conflict.

7. Think Global Health 2026; March 20

Where the Iran War Could Disrupt Pharmaceutical Supply Chains

Yadav P and Hirschfeld A.

Key message. The war in Iran and the wider Middle East is disrupting critical logistics corridors (the Strait of Hormuz and major Gulf air hubs), causing major delays and cost increases in global pharmaceutical supply chains. While immediate drug shortages—especially in the United States and the EU—are likely to remain limited in the near term thanks to inventory buffers, the conflict has exposed structural vulnerabilities in transport capacity, cold-chain logistics, and emergency supply systems.

Main disruptions. As of March 16, traffic through the Strait of Hormuz remains about 90% below pre-war levels. Air-cargo capacity in the Gulf region fell 79% between February 28 and March 3, translating into a 22% reduction worldwide. Air-freight costs on Asia–Europe routes have risen 45% since the war began, driven largely by detours and rerouting. Operations at the WHO hub in Dubai are on hold, removing a key node for humanitarian health supplies.

Pharmaceutical companies are using workarounds such as overland trucking between GCC airports or routing via hubs like China and Singapore—leading to longer transit times and higher costs.

Most vulnerable products/supply chains

- Cold-chain products such as vaccines, insulin, biologics, and cancer therapies, which must be kept between 2°C and 8°C and are highly sensitive to delays and temperature excursions.
- WHO emergency and humanitarian deliveries, already facing major funding and capacity gaps; the WHO emergency system is currently reported to have a 70% funding shortfall.
- Transit networks via Dubai and other GCC hubs: the GCC pharma market is valued at \$23.7B, with roughly 80% dependent on imports via GCC airspace and the Strait of Hormuz; Dubai alone has nearly 4 million tons of air-cargo capacity and could miss processing more than 10,000 tons of pharma air freight in March.
- Sea and air corridors for exporters such as India and Pakistan, which rely heavily on Middle East routes to supply destinations including the United States and Africa.

Short-term impacts. Consumers could see drug price increases within 4–6 weeks, partly due to higher Indian air-cargo rates. Higher risk of spoilage and shortages for temperature-sensitive medicines due to longer, more complex routes. Disruption of at least \$18M in WHO humanitarian health supplies; another \$8M in shipments cannot currently reach the hub, affecting more than 50 emergency requests from 25 countries—including \$6M in medicines for Gaza. Export-dependent economies in Asia and African countries with limited inventories and working capital may be hit disproportionately by higher transport costs and delays. Pharma manufacturers and distributors are shifting routes and inventory positions, squeezing margins but helping prevent widespread shortages in the EU and U.S. in the near term.

Recommended actions:

- Improve real-time visibility into bottlenecks and inventory positions across the region to detect emerging shortages early and enable targeted rerouting.

- Diversify transport corridors to reduce reliance on the Strait of Hormuz and specific Gulf hubs, including structured use of alternative hubs (e.g., China, Singapore) and overland routes.
- Invest in more robust and redundant cold-chain infrastructure, including additional cooling capacity and contingency plans for delayed shipments.
- Strengthen and fund emergency stockpile and humanitarian systems (such as the WHO hub) to address existing gaps and reduce the current 70% funding shortfall.
- Maintain—and where necessary expand—strategic inventories: EU countries typically mandate 2–6 months for essential medicines; pharma companies average ~180 days of finished-goods inventory; distributors hold ~25–30 days. These buffers are critical and should be scaled up particularly in more vulnerable regions.

Gender

8. HPP 2026;41(5):913-21

Toward a common lexicon in gender analysis for global health programs and policies

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Gender and gender analysis are frequently misunderstood or conflated with sex and gender identity, resulting in inconsistent terminology across cultural, social, and organizational contexts in global public health. This ambiguity has proliferated diverse frameworks and scales to assess gender-responsiveness, hindering comparison and implementation. Terms like gender mainstreaming, integration, and analysis are often used interchangeably despite distinct functions. As a methodological musing, this paper proposes normative definitions for commonly used terms—gender-responsiveness, gender mainstreaming, gender integration, gender analysis, gender situational analysis, gender assessment, and gender needs assessment—highlighting what each is/is not and providing usage guidance. This paper is intended as a methodological intervention in global public health and health policy/systems research, where terminological ambiguity can challenge credibility, limit comparability across studies and organizations, and obscure claims about how gendered power relations shape health and health systems. By offering clear definitions and guidance on the appropriate use of these terms, we aim to support a more coherent and rigorous approach to gender-responsive approaches and strategies.

Health Policy / Health Finances

9. HPP 2026;41(5):715-8

Editorial

The Health Systems Research section: scope and future

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(Abridged)

Over the past decade, Health Policy and Planning's Health Systems Research section has been a leading platform for advancing empirical and methodological scholarship on health systems in low- and middle-income countries (LMICs). Through sustained engagement with core domains of health systems, the section has generated insights into how systems operate within complex political, institutional, and social contexts, highlighting not only what works (or not), but why, and under what conditions. Key areas of contribution have included governance, priority setting, service delivery, the health workforce, health information and logistics systems, and the ways in which policies shape change in health system architecture, programmes and health services, and vice versa. This trajectory was shaped by foundational contributions to understanding health systems, notably the supplements Systems Thinking for Health Systems Strengthening in LMICs: Seizing the Opportunity (Adam and

de Savigny 2012) and Science and Practice of People-Centred Health Systems (Sheikh et al. 2014), which foregrounded the importance of complexity, social context, actors, and human values in shaping health systems.

This body of work has evolved in parallel with profound shifts in the global context. The past decade has been characterized by a series of systemic shocks and transitions that are reshaping both the practice of health systems strengthening and the research agendas that underpin it. The COVID-19 pandemic marked an inflection point, exposing fragilities in state authority, public trust, and global coordination. At the same time, intensifying geopolitical tensions, religious and ethnic divisions, and protracted conflicts have had direct and devastating impacts on health systems, including the targeting of facilities and health workers. The weakening of multilateralism, alongside an accelerated decline in development assistance, is further transforming the governance and financing landscape of health systems. These dynamics are accompanied by a renewed emphasis on national sovereignty and self-reliance, including increased focus on domestic financing and local production of essential medical products and technologies.

Concurrently, the growing influence of commercial actors, including private equity and philanthropic organizations, is reshaping public sector-oriented understandings of health systems. Rapid advances in digital technologies, artificial intelligence (AI), and data infrastructures are reconfiguring health systems in real time, while also contributing to the proliferation of misinformation and disinformation. Taken together, these developments are redefining the scope and priorities of health systems research and underscore the need for conceptual and methodological approaches that more explicitly engage with governance, legitimacy, and political economy analyses of the forces driving health systems and system transformation in a rapidly changing world.

Sections:

- Advances in conceptual and methodological approaches
- Future trends in health systems research
- A renewed call for scholarship and submissions

10. Lancet 2026;407(10540)1676-7

Myopic medical harm: a man receives free colon cancer screening in Ghana

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(Abbreviated)

A case is described of so called myopic medical harm: the harm resulting from narrowly focused medical care that overlooks the broader social, political, logistical, and systemic factors affecting a patient's ability to benefit from that care, which may result in financial, physical, or psychological harm to the patient.

When global health organisations focus their efforts on short-sighted goals rather than the long-term, holistic wellbeing of individuals, they can accentuate physical and psychological harm. Both harmful iatrogenic myopia and initiatives that “parachute” into low-resource settings and provide piecemeal, short-term medical care represent insidious variations of this harm, which have been woven throughout the history of global health. Myopic unintended consequences can stem from a failure to plan for comprehensive clinical trajectories or the variability of the social contexts.

Clinicians are uniquely positioned to use their knowledge to help humanitarian and global health organisations identify a priori where initiatives may fall short and potentially result in more harm than good for patients. With the limited resources that are available in many settings, attention must be paid to precisely how those resources are used. The following proposals can be useful when considering myopic medical harm.

First, incorporate likely clinical trajectories into the design of health interventions. The many possible outcomes of an intervention from the perspective of patients need to be considered.

Performing a needs assessment and developing strong partnerships with local organisations are practical ways to achieve this in the process of designing an intervention.

Second, incorporate pathways for common local tests, procedures, and treatments into clinical education. Clinical education often focuses on understanding a patient's physiological and clinical trajectory without appreciation of the practical implications of their disease.

Third, recognise that a lack of resources does not absolve health-care organisations from harm inflicted. Too often, there is a tendency to state that medical providers have done the best they could with the few resources available, or that “something is better than nothing”.

Clinicians should be careful not to limit care based solely on perceived obstacles. The ideal response to limited resources and the fear of committing myopic medical harm is not inaction but engaging in transparent, patient-centred discussions of risks and benefits.

Providing equitable care on a global scale requires a nuanced approach—one that thoughtfully integrates contextual awareness with respect for each patient's values, lived experience, time, material resources, and access to health care. Only then can patients be empowered to make informed choices, even within imperfect systems. Now more than ever, it is crucial that we do not allow fear of an imperfect intervention to push key stakeholders in global health into complacency and inaction. However, those who design interventions to fill critical health-care gaps in vulnerable communities need to engage in vigilant introspection and contextualisation of their work.

11. Lancet Glob Health 2026;14(4):e589-e597

Powering health with energy in low-income and middle-income countries

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This is the first in a Series of five papers on energy and health in low-income and middle-income countries. All papers in the Series are available at www.thelancet.com/series-do/energy-health-2026. Energy is central to human health, powering essential activities from cooking food, heating, and cooling in the home to operating equipment and refrigerating medicines and vaccines in health-care facilities. Despite progress in expanding access, many low-income and middle-income countries (LMICs) still experience energy poverty, forcing billions of people to breathe contaminated air from cooking with biomass fuels and walk to health centres that have difficulty keeping lights on and electrical equipment running. The result is a heavy disease burden that exhibits the same inequity that characterises other poverty-related deprivations. In this paper, we introduce this Series on energy and health in LMICs by highlighting persistent disparities in energy access, use, quality, and reliability in LMICs; the associated disease burden; the salient opportunities to mitigate disease by providing clean, affordable, and reliable energy to households, communities, and health-care facilities; and the major policy, technological, and financial constraints that need to be overcome.

- Beyond access: clean energy use in low-income and middle-income countries
- Household energy use and health in low-income and middle-income countries
- Reliable electricity to advance quality health care in low-resource settings
- Priorities and opportunities for clean energy transitions to advance health in low-income and middle-income countries
- Viewpoint: Affordability re-examined: beyond the health burden of safe water and clean cooking

12. Lancet Glob Health 2026;14(5):e690-e701

Impact of two decades of humanitarian and development assistance and the projected mortality consequences of current defunding to 2030: retrospective evaluation and forecasting analysis

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Background: Official development assistance (ODA) accounts for the majority of humanitarian and development assistance in the world's most vulnerable countries and has played a pivotal role in advancing global health. We aimed to comprehensively evaluate the impact of ODA funding on mortality across the past two decades, and to project the potential consequences of current defunding trends.

Methods: We conducted an integrated retrospective evaluation and forecasting analysis using longitudinal panel data from 93 low-income and middle-income countries (LMICs). First, we estimated the association between ODA per-capita funding and mortality outcomes from 2002 to 2021 using a two-ways fixed-effects multivariable Poisson regression model with robust standard errors, adjusted for all relevant demographic, socioeconomic, and health-system covariates. We then assessed

age-specific and cause-specific effects, performing extensive sensitivity and triangulation analyses to test the robustness and causal interpretation of results. Finally, we integrated the retrospective impact estimates into validated country-level microsimulation models to forecast mortality under three defunding scenarios up to 2030: a business-as-usual trajectory, a severe defunding scenario, and a mild defunding scenario.

Findings: Higher ODA funding levels were associated with a 23% reduction in age-standardised all-cause mortality (rate ratio [RR] 0·77; 95% CI 0·70-0·85) and a 39% reduction in under-5 mortality (0·61; 0·49-0·75). ODA funding was associated with large mortality declines in major communicable diseases: 70% for HIV/AIDS (RR 0·30; 95% CI 0·24-0·39), 56% for malaria (0·44; 0·35-0·56), 56% for nutritional deficiencies (0·44; 0·30-0·65), and 54% for neglected tropical diseases (0·46; 0·36-0·59). Significant reductions were also observed in mortality from tuberculosis, diarrhoeal diseases, lower respiratory infections, and maternal and perinatal causes. Forecasting analyses projected that ongoing reductions in ODA funding could, under a severe defunding scenario, result in 22·6 million (95% uncertainty interval [UI] 16·3-29·3) additional deaths across all ages by 2030, including 5·4 million (4·1-6·8) among children younger than 5 years. Under a mild defunding scenario-defined as a continuation of current downward trends-the projected excess deaths would be 9·4 million (95% UI 6·2-12·6) overall and 2·5 million (1·8-3·2) among children younger than 5 years.

Interpretation: ODA funding has played a decisive role in reducing preventable mortality across LMICs over the past two decades, and the abrupt withdrawal of this support threatens to cause millions of avoidable deaths, reversing decades of progress in global health.

13. Lancet Glob Health 2026;Jun 4:103965

Global, regional, and national impact of the Expanded Programme on Immunization against 14 pathogens from 1974 to 2024: an economic evaluation

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Background: 2024 marked the 50th anniversary of the Expanded Programme on Immunization (EPI), launched by WHO. Despite its crucial role in preventing infectious diseases, EPI's 50-year economic impact has not been systematically evaluated. This study aims to estimate the benefit-cost ratios (BCRs) and incremental cost-effectiveness ratios (ICERs) of EPI at global, regional, and national levels.

Methods: We conducted an economic evaluation of EPI for 14 globally important pathogens with robust long-term data availability: *Corynebacterium diphtheriae* (diphtheria), *Haemophilus influenzae* type b, hepatitis B virus (hepatitis B), Japanese encephalitis virus (Japanese encephalitis), measles virus (measles), *Neisseria meningitidis* group A (meningitis A), *Streptococcus pneumoniae*, *Bordetella pertussis* (pertussis), poliovirus (polio), rotavirus, rubella virus (rubella), *Clostridium tetani* (tetanus), *Mycobacterium tuberculosis* (tuberculosis), and yellow fever virus (yellow fever) from Jan 1, 1974, to Dec 31, 2024, across 194 WHO member states. We compared costs (procurement, administration, and family additional costs from time spent synthesised from authoritative global databases and systematic literature reviews) and benefits (primarily averted mortality retrieved from published global burden estimates) between observed EPI implementation and a counterfactual scenario of no vaccination, from which BCRs and ICERs were derived.

Findings: From 1974 to 2024, the cost of EPI reached US\$937 billion (95% CI 699-1187), offset by \$15 050 billion (12 609-17 605) in averted productivity losses due to mortality (aggregate BCR 16·06 [95% CI 10·62-25·20]; ICER cost-saving). Immunisation against all 14 pathogens showed favourable economic outcomes. Measles vaccination produced the highest BCR (73·97 [45·78-124·06]), and the ICERs for all vaccines remained below conventional cost-effectiveness thresholds. EPI against 14 pathogens in aggregate achieved cost savings (BCR>1) in all 194 WHO member states. Economic returns varied across six WHO regions and four World Bank income groups, with the Eastern Mediterranean region (BCR 17·22 [11·22-28·67]) and low-income countries (BCR 23·63 [16·87-34·32]) showing the highest BCRs.

Interpretation: The 50-year EPI has proven highly cost-effective at global, regional, and national levels, and remains a worthwhile investment. The EPI delivered impactful life-saving benefits and favourable economic returns, especially in high-burden and low-income settings.

14. PLoS Med 2026;23(3):e1004961

Perspective: From crisis response to country control: Restoring agency and sustainability in global health

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Global health is at a point of structural reckoning. The system that shaped three decades of progress now sits at the edge of its own limits. Financing is tightening, political tolerance for externally driven agendas is waning, and trust between low- and middle-income countries and global institutions is increasingly fragile. At the same time, health threats are becoming more complex, chronic, and deeply intertwined with economic stability, climate risk, and geopolitics. The burden of unmet need remains vast, with recent World Health Organization (WHO) and World Bank monitoring showing stalled progress on universal health coverage and worsening financial hardship driven by out-of-pocket spending. This moment is not a temporary disruption; it reflects deeper tensions in how modern global health has been designed and governed.

The current global health architecture was built largely as a response to crises: HIV, polio, malaria, Ebola, COVID-19, etc. Each emergency generated new institutions, financing mechanisms, and delivery platforms designed to move fast and operate at scale in settings with limited state capacity. In that context, speed and control mattered more than integration and ownership. The overriding objective (rightly so) was to save lives quickly; however, this often resulted in working around weak systems rather than through and with them.

This model has delivered extraordinary results: Millions of lives have been saved, diseases have been controlled or pushed to the brink of elimination, and coordinated international action has proven its value. Yet the very features that made these initiatives effective in crises have also embedded long-term fragility. Emergency structures, once established, tend to persist. Parallel systems have hardened, vertical programs have expanded, and funding flows continue to follow donor priorities rather than domestic plans. Parallel procurement, donor-driven accountability, externally defined targets, and time-bound grants made sense when the alternative was inaction. They make far less sense in a world where countries are expected to manage complex health systems, absorb shocks, and finance their own futures, and where they are increasingly seeking to do so.

These dynamics are evident in Ghana, a country often cited as a relative success in health governance. As Ghana has moved through Gavi's accelerated transition toward self-financing of immunization, long-standing parallel arrangements for vaccine financing, procurement, and reporting have had to be rapidly absorbed into routine government systems. While coverage has largely been maintained, the transition has exposed weaknesses in budget predictability, procurement integration, and institutional coordination. The impact has been increased fiscal stress on the health budget and heightened vulnerability to supply disruptions, illustrating how systems designed to operate outside core government structures can leave countries exposed when responsibilities are repatriated.

Similar patterns can also be seen in other areas. In South Africa's HIV response, external support under the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) has progressively shifted toward domestic financing and management. Highly effective donor-supported delivery, monitoring, and community outreach platforms proved difficult to fully institutionalize within provincial health systems at scale. The result was not a reversal of political commitment, but uneven integration of functions such as workforce support and data systems, with consequences for service continuity and retention in care in some settings. Again, the fragility lay less in national intent than in the long-term reliance on parallel architectures.

Together, these examples illustrate the core dilemma. This is the central paradox of global health today. Success has created dependence, and speed has come at the cost of agency.

The global health ecosystem was never structured with a clear transition from emergency response to sovereign control. Many flagship global health initiatives were not primarily designed to support countries in taking long-term control of their health systems; they were designed to compensate for its absence. As a result, responsibility and authority have become misaligned. Governments are expected to deliver results without full control over resources or priorities. Accountability flows upward to

funders rather than outward to citizens. When financing tightens or global attention shifts, hard-won gains become vulnerable, and national institutions are left exposed.

This tension is not new. Earlier efforts to address aid fragmentation, including sector-wide approaches promoted in the 1990s and 2000s, explicitly sought to align donor financing with national strategies and budgets. While these approaches achieved mixed results, they reflected an important recognition: that sustainable progress depends on strengthening country systems rather than perpetually bypassing them.

Health sovereignty has re-entered the global debate in this context. It is sometimes framed as resistance to global cooperation or a retreat into nationalism. That framing is misleading. Sovereignty in health is not about isolation: It is about agency. It refers to a country's authority over priority-setting, budgetary control, and accountability mechanisms, combined with the institutional capability to deliver on those choices. Without that agency, global health remains inherently fragile.

These concerns are increasingly being acknowledged by governments and global agencies themselves. The Lusaka Agenda, agreed in 2023 by major global health institutions and partner countries, represents an explicit attempt to confront the unintended consequences of fragmentation, parallel systems, and misaligned accountability in the current architecture. By calling for greater alignment behind country-led priorities, stronger national institutions, and reduced transaction costs, the Lusaka Agenda reflects a recognition that sustainability requires a deliberate shift away from crisis-driven exceptionalism toward routine system stewardship.

At a political level, the Accra Reset similarly signals growing impatience among governments with models that deliver short-term results while constraining long-term agency. Its emphasis on mutual accountability, respect for national systems, and a recalibration of power in development partnerships underscores that calls for sovereignty are emerging from states themselves, not only from academic critique. Together, these initiatives suggest that the pressure for reform is now being driven from within the system as well as from those it was designed to support.

Looking ahead, decision-making must move closer to where consequences are felt. This requires a genuine shift from donor-defined priorities toward country-led strategies grounded in domestic political and fiscal realities. It also requires accepting that countries will sometimes make choices external partners would not prefer. That is not a flaw in the system, but the essence of ownership. Financing models must move away from short-term, project-based funding that undermines long-term system resilience. Predictable financing that supports core functions must become the priority. Co-financing and domestic resource mobilization should be designed in from the start, not introduced only when external actors are ready to exit. Accountability must also be rebalanced. Upward reporting to external funders has dominated global health for too long. Durable accountability runs through parliaments, auditors, civil society, and citizens. That requires sustained investment in governance, transparency, public financial management, and national data systems.

Global institutions will continue to play essential but differentiated roles. Some, such as WHO, are primarily normative and convening. Others, including major financing and delivery platforms, have explicitly operational mandates. The challenge is not to eliminate implementation, but to ensure that external action increasingly reinforces, rather than substitutes for, national systems and accountability. Ultimately, success must be redefined. Lives saved will always matter. But so should ministries that can plan and execute, budgets that can absorb shocks, and systems that continue to function when external funding declines. If this shift is taken seriously, future success will be evidenced by fewer parallel systems, more predictable domestic financing for core functions, and clearer lines of accountability between governments and their populations. The risk of inaction is equally concrete: repeated cycles of crisis, dependence, and fragility, with diminishing returns on global investment. Global solidarity remains essential. Shared threats such as pandemics, climate change, and antimicrobial resistance demand collective action. But solidarity cannot substitute for agency, nor can it rely indefinitely on crisis narratives to justify externally concentrated power. The window for deliberate, country-led reform is narrowing.

Infectious Diseases (Malaria and Tuberculosis: see below)

15. JAMA 2026;335(21):1879-92
Hepatitis B: A Review

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Importance: Hepatitis B virus (HBV) infection affects an estimated 254 million people worldwide and causes approximately 1.1 million deaths annually. In 2022, there were approximately 1.2 million new HBV infections worldwide and 14 000 in the US.

Observations: HBV is a DNA virus transmitted through percutaneous or mucosal exposure to infected blood, semen, or body fluids. Mother-to-child transmission, which is the principal cause of chronic HBV infection globally, occurs in 70% to 90% of infants born to mothers who are hepatitis B surface antigen (HBsAg) and hepatitis B e antigen (HBeAg) positive and in 5% to 20% of those born to HBsAg-positive/HBeAg-negative mothers. However, HBV vaccination and administration of hepatitis B immune globulin within 12 to 24 hours of birth prevent approximately 94% of perinatal infections, and adding antiviral therapy in pregnant women with high HBV DNA reduces transmission to less than 1%. Although universal birth-dose HBV vaccination is the most effective strategy for eliminating HBV infection, global birth-dose HBV vaccine coverage was only 45% in 2024. The risk of developing chronic infection (HBsAg positive for more than 6 months) is 90% if HBV infection occurs during infancy, 30% in children aged 1 to 5 years, and less than or equal to 5% in immunocompetent adolescents and adults. HBV infection is diagnosed by serologic testing: HBsAg indicates ongoing infection, antibody to HBsAg indicates immunity, and antibody to hepatitis B core antigen indicates ongoing or past infection. Serum HBV DNA levels quantify virus-replication activity. Assessment of liver inflammation and fibrosis with alanine aminotransferase (ALT) and noninvasive tests such as Fibrosis-4 index and liver elastography guide treatment decisions. Chronic HBV infection may progress to cirrhosis and hepatocellular carcinoma (HCC); the 5-year cumulative risk of cirrhosis is 8% to 15% in untreated chronic HBV infection, and annual HCC incidence is 3% to 5% among patients with cirrhosis. Antiviral therapies-pegylated interferon alfa and nucleos(t)ide analogues (entecavir or tenofovir)-suppress HBV DNA replication and reduce the risk of HCC by approximately 50%. Antiviral treatment is recommended for all patients with chronic HBV and cirrhosis and for those without cirrhosis who have high HBV DNA with elevated ALT or significant inflammation/fibrosis. Patients at high risk of HCC should undergo surveillance with ultrasonography and alpha-fetoprotein testing every 6 months.

Conclusions and relevance: HBV infection causes approximately 1.1 million deaths annually worldwide. Universal HBV vaccination, particularly birth-dose administration, is the most effective strategy to prevent HBV infection. Among patients with HBV infection, antiviral therapy decreases progression to cirrhosis and liver failure and reduces the risk of HCC.

16. N Engl J Med 2026;Jun 17

The Social Contract of Bundibugyo Ebola Isolation

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This article analyzes the challenges of containing the Bundibugyo Ebola outbreak in the Democratic Republic of Congo (DRC), emphasizing the crucial role of trust and community engagement. Effective Ebola containment relies on early detection, isolation, contact tracing, source identification, and community-wide preventive measures. While administrative and biomedical protocols can be implemented top-down, the success of patient isolation depends heavily on community trust in health authorities. Since the first Ebola outbreak in 1976, the DRC has experienced sixteen outbreaks. The current Bundibugyo outbreak in eastern DRC demonstrates the consequences of a breakdown in the social contract between communities and health authorities. Epidemiological data reveal a crisis of confidence: within two weeks of the outbreak declaration, there were 321 confirmed cases but only a 43% contact tracing rate. Many patients fled treatment centers, resisted contact tracing, and sometimes physically assaulted healthcare workers. Families forcibly retrieved deceased relatives for traditional burials, further complicating containment efforts. In previous outbreaks, such as those involving the Zaire Ebola virus, an unwritten contract existed: communities accepted isolation in exchange for access to advanced care and experimental treatments, increasing survival chances. In the Bundibugyo outbreak, however, there are no vaccines or specific treatments, so isolation is perceived as a coercive

measure without clear benefit to patients. This perception is worsened by political instability, armed conflict, and a history of broken promises by authorities and international organizations. The militarization of the health response, with teams often escorted by police or military, further erodes trust. Hospitals and treatment centers are seen as places of surveillance and danger, pushing care into homes and traditional healers' clinics, resulting in delayed referrals and hidden transmission chains. The authors conclude that no protocol can succeed without community involvement. They advocate for demilitarizing the response and strengthening local networks and leaders, as trust—especially when medical solutions are lacking—is the most important factor for successful outbreak control.

17. *Lancet Microbe* 2026;7(6):101458

Editorial

The hidden burden of schistosomiasis in women and girls

Schistosomiasis is a neglected tropical disease caused by parasites of the genus *Schistosoma*. More than 140 million individuals are infected with one of three primary *Schistosoma* spp, *Schistosoma mansoni*, *Schistosoma haematobium*, and *Schistosoma japonicum*.

S. haematobium is found in Africa and some countries in the Eastern Mediterranean, primarily affecting the genitourinary tract, and can cause female genital schistosomiasis (FGS) when eggs accumulate in the upper or lower female genital tract.

In this June issue, we publish a four-paper Series on Schistosomiasis in Women and Adolescent Girls in collaboration with The Lancet Global Health. This Series provides an overview of the parasite and sex-specific manifestations in women and girls, diagnostics and treatment, management during pregnancy and breastfeeding, and co-infections in the genital tract.

FGS is a chronic disease that can substantially impact the lives of women and girls. They can suffer from debilitating genital symptoms that can interfere with their work and daily activities, affect intimate relationships with their partners, and lead to subfertility or adverse pregnancy or birth outcomes.

Yet, barriers to diagnosis and treatment extend beyond the community and into health systems, where many health-care workers have inadequate knowledge of the genital manifestations of schistosomiasis. The unawareness that schistosomiasis affects not only children, but also women and girls, contributes to a persistent failure to diagnose, prevent, and manage FGS.

The genital examination, followed by cervicovaginal biopsy is an invasive procedure that can be painful and potentially increase the risk for STIs.

The continued neglect of FGS also reflects previous schistosomiasis control strategies, which have historically focused on school-aged children while overlooking women and girls.

18. *PLoS Med* 2026;23(4):e1005068

Perspective: Optimizing dengue vaccination strategies

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(Abbreviated)

Dengue virus (DENV), comprising four antigenically distinct serotypes (DENV-1–4), remains a major public health challenge in tropical and subtropical regions where the vector - primarily *Aedes* mosquitoes - exists. Outbreaks are becoming more frequent and severe, with the disease spreading into more temperate regions, including Southern Europe and parts of the southern United States. Dengue is also increasingly affecting international travelers. While primary infections are often asymptomatic or mild, secondary infections with a different serotype carry a higher risk of severe disease due to antibody-dependent enhancement. Severe dengue is characterized by capillary leakage and thrombocytopenia, with the potential to progress to shock syndrome. Because it is difficult to predict which patients will develop severe disease, many individuals with dengue are hospitalized for close monitoring and supportive care, placing a substantial burden on already strained health systems.

Dengue-endemic countries should carefully consider how best to deploy TAK-003, currently the only available dengue vaccine globally. When implemented through strategies aligned with local epidemiology and health system priorities, TAK-003 has the potential to substantially reduce dengue

burden. Modeled outcomes consistently show that higher vaccine coverage leads to greater reductions in disease, underscoring the importance of achieving high uptake. Future research should focus on real-world effectiveness, particularly in seronegative populations, as well as the durability of protection. As more countries consider vaccine introduction, flexible, data-driven modeling approaches will be essential to guide context-specific decision-making.

Malaria

19. Am J Trop Med Hyg 2026;114(4):680-9

Impacts of Seasonal Mass Drug Administration in School-Aged Children on Chronic Malaria Infections in Burkina Faso

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School-aged children constitute an important asymptomatic reservoir for *Plasmodium* and may harbor the parasite through malaria transmission seasons in the absence of treatment. As WHO guidelines do not recommend chemoprevention for this group, there is a need to understand how such interventions could impact malaria transmission dynamics. This study investigated seasonal transmission patterns and the potential of mass drug administration (MDA) at the onset of the dry season to interrupt malaria transmission. Monthly parasitological surveys were conducted in Burkina Faso rural localities during the dry season targeting two cohorts of school-aged children: one of children uninfected at baseline who received no treatment and another of parasitemic asymptomatic children who received a full treatment dose of artemether-lumefantrine. Monthly blood samples were collected and analyzed using microscopy and polymerase chain reaction. Parasite diversity and drug resistance were assessed with *msp1/msp2* typing and *pfprt/pfmdr1* genotyping, and entomological monitoring evaluated mosquito vector dynamics and infection status. Our results revealed that 93% of uninfected individuals remained *Plasmodium* infection free. Among treated individuals, 91% remained negative during follow-up. The prevalence of persistent infections among parasitemic individuals was stable over time at 5-9% in both cohorts. *msp1/msp2* genotyping revealed the same haplotypes over time within participants, and analysis of drug-resistance markers showed low frequencies of mutations associated with antimalarial resistance. Our findings demonstrated that malaria transmission is interrupted during the dry season and that early MDA can effectively prevent infection, with over 90% of participants remaining parasite free, highlighting its potential to disrupt transmission dynamics.

20. JAMA 2026;335(18):1575-7

Long-Term Neurocognitive Outcomes After Severe Malaria Infection: No Peace of MIND

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(Abbreviated)

In this issue of JAMA, Bangirana and colleagues report results from the Malarial Impact on Neurobehavioral Development (MIND) study, which assessed long-term neurocognitive and academic outcomes among children with prior episodes of severe malaria. This study, conducted at 2 clinical sites in Uganda, included participants enrolled in 2 prior prospective studies of severe malaria conducted between 2008 and 2018. The first of these 2 cohorts enrolled children aged 18 months to 12 years at initial enrollment with cerebral malaria or severe malaria anemia, and the second cohort included children aged 6 months to 4 years at initial enrollment with 1 of 5 common forms of severe malaria (cerebral malaria, severe malaria anemia, respiratory distress, complicated seizures, or prostration). For both cohorts, community children without malaria were included as controls. For the MIND study, the primary outcomes were long-term effects on overall cognition, attention, reading, and math skills, all measured using validated assessment tools.

In total, 939 participants were successfully identified and enrolled in the MIND study, representing 75% of participants from the 2 parent studies. This, in itself, is an incredible feat, given that some participants had originally been enrolled 15 years prior. For the entire MIND study population,

participants were tested an average of 8.4 years (range, 4-15 years) after the initial enrollment episode of severe malaria.

In the current study, the authors found that children with cerebral malaria or severe malaria anemia had lower overall cognitive ability scores and math achievement scores compared with community controls at long-term follow-up. No differences were observed in attention or reading scores between children with cerebral malaria and severe malaria anemia. These findings align with those from prior studies that showed cognitive impairment 1 to 2 years after infection. However, this new evidence suggests that this impairment may unfortunately persist for many years after an episode of severe malaria.

Severe malaria infection is defined by the presence of 1 or more clinical features or laboratory findings, including impaired consciousness (in cerebral malaria), severe anemia (in severe malaria anemia), hyperparasitemia, acute kidney injury, respiratory distress, multiple convulsions, prostration, acidosis, shock, or bleeding. The presence of any of these findings indicates more severe disease and a higher risk of mortality. Using the second MIND cohort, the authors examined if other common forms of severe malaria—respiratory distress, complicated seizures, or prostration—were associated with long-term neurocognitive impairment. They observed no long-term differences between cognitive or academic outcomes for children with these severe malaria phenotypes when compared with community controls.

Together, these findings suggest that the long-term cognitive impairment associated with cerebral malaria or severe malaria anemia is not simply related to severe illness or prolonged hospitalization. Rather, there appears to be something distinct about the pathophysiology of cerebral malaria and severe malaria anemia that contributes to longer-term cognitive decline. In *P. falciparum* malaria, the parasite modifies the plasma membrane of its host cell with sticky, parasite-produced proteins that mediate adherence to vascular endothelium. Adherence of infected erythrocytes to the cerebral microvasculature is a key feature of cerebral malaria, causing an inflammatory cascade that results in blood-brain barrier dysfunction, cerebral edema, and ultimately, herniation (in fatal cases). Severe malaria anemia is complex and multifactorial. Erythrocyte turnover increases—in both infected and uninfected cells—even as production drops; however, vascular adherence and sequestration remain common features in severe malaria anemia, as they are in cerebral malaria.

Over the last 2 decades, substantial progress has been made in preventing infections and death due to malaria. Today, these gains are threatened by cuts to global aid and global health research. The findings of the MIND study are a poignant reminder that the burden of malaria extends far beyond the acute infection and reinforce the importance of continued investment in malaria elimination.

Mental Health

21. *BMJ Global Health* 2026;11:e022058

Unignorable burden of mental health disorders among adolescents in sub-Saharan Africa: a call for urgent action

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Why should we be concerned: the burden.

Adolescence is a critical stage of human development, marked by significant physical, emotional and social transitions that shape long-term health and well-being. Globally, approximately one in seven adolescents aged 10–19 years experiences a mental health condition, with most cases remaining undiagnosed and untreated. The burden of adolescent mental health conditions is unevenly distributed, with low- and middle-income regions, including sub-Saharan Africa (SSA), disproportionately affected.

Adolescent mental health disorders in sub-Saharan Africa (SSA) constitute a growing public health crisis, with approximately one in five adolescents affected.

Despite this significant burden, adolescent mental health remains severely underprioritised because of pervasive stigma, insufficient funding, limited infrastructure and a critical shortage of trained mental health professionals throughout the region.

The consequences of inaction are considerable, as untreated mental health conditions lead to chronic illness, school dropout, unemployment and suicide, thereby deepening poverty and social instability. Strategic, multisectoral investment is urgently needed, including increased funding, the development and implementation of adolescent-focused mental health policies, integration of mental health services into primary healthcare and expansion of school- and community-based programmes. Empowering adolescents, families and communities through awareness, advocacy and research is essential for reducing stigma, establishing sustainable systems of care and achieving equitable improvements in mental health outcomes across SSA.

22. Glob Ment Health (Camb) 2026;May13:13:e115

Experiences, needs, and priorities of family caregivers of people with severe mental health conditions in low and middle-income countries: a systematic review of qualitative studies

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This systematic review addresses a critical blind spot in global mental health: the wellbeing of the family caregivers who provide most of the care for people with severe mental health conditions in low- and middle-income countries (LMICs). Drawing on evidence from 76 qualitative studies, it brings caregivers' voices to the forefront and highlights the immense emotional, social, and economic pressures they endure within largely unsupported home environments. The review traces caregivers' journeys from early confusion and fear to hard-won resilience grounded in faith, peer connections, and efforts to maintain the person's place within family life. It also shows how systemic neglect shifts responsibility for care almost entirely onto families, disproportionately onto women. Importantly, it documents what caregivers say they urgently need: accessible information, involvement in treatment decisions, practical skills, peer support networks, and financial relief. By amplifying the voices of caregivers, this review challenges global mental health approaches that rely on family care without investing in structures that sustain it. While existing efforts focus on treating the person with severe mental health conditions, this research demonstrates that the home environment is the primary setting for recovery in many LMICs. The findings make a compelling case for shifting from individual-focused clinical models toward family-centered interventions that improve recovery environments at home while reducing caregiver burnout and isolation. They call for approaches that recognize family caregiving as both gendered and economically consequential. Supporting the family unit can be a cost-effective strategy to close the mental health treatment gap in LMICs and advance broader goals of health equity, gender justice, and social inclusion.

23. Glob Ment Health (Camb) 2026;May20:13:e119

Barriers and Facilitators to Sexual and Reproductive Healthcare Access for Women with Severe Mental Illness in Low- and Middle-Income Countries: A Qualitative Systematic Review and Meta-Aggregation

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This review shares findings on a historically overlooked public health crisis: access to sexual and reproductive health (SRH) care for women with severe mental illness (SMI) in low- and middle-income countries (LMICs). By synthesizing qualitative evidence from the past two decades, this study identifies barriers and facilitators that hinder or promote access to SRH care.

Our findings show how women with SMI face barriers, such as sociocultural, autonomy-related, and systemic inaccessibility challenges that impact access to SRH care. This has broad implications for mental health integration in global systems and general reproductive and gender equity, especially for women with SMI—a group that faces intersectional, layered barriers to care due to sexism, ableism, stigma, and institutional marginalization.

This research can contribute to evidence-based interventions for international organizations, humanitarian groups, and local policymakers to create targeted, community-specific interventions that address the nuances of access to both reproductive and mental health services for women in LMICs.

By amplifying the experiences of women with SMI, their caretakers, and appropriate healthcare providers, this study aims to further research that assesses inclusive SRH care for women with SMI and advocate for a global health agenda that is more inclusive, comprehensive, and rights based. Background. Women with severe mental illnesses (SMI) in low- and middle-income countries (LMICs) appear to have poorer sexual and reproductive health (SRH) compared to women without SMI and men with SMI. Previous research suggests that women with SMI experience higher rates of HIV and other sexually transmitted diseases, sexual violence, and variable contraceptive use. This review seeks to identify key barriers and facilitators affecting access to SRH services for women with SMI in LMICs by systematically synthesizing relevant research.

Methods. A qualitative systematic review was conducted using the Joanna Briggs Institute (JBI) methodology. Electronic searches were made on July 31, 2024 of MEDLINE, EMBASE, PsycINFO, and citation tracking covering the period from 2004 to 2024. Studies conducted in LMICs that explored barriers and facilitators for accessing SRH services for women aged 18 years or older diagnosed with SMI were included. Data extraction and methodological quality assessments were completed, and findings were compiled using the JBI meta-aggregation approach. The confidence of these findings was evaluated using the ConQual method.

Results. Eleven studies met the inclusion criteria. Four synthesized findings were: (a) Variable knowledge of SRH and low risk perception hinder access to SRH care for women with SMI; (b) Service availability shapes access to SRH care for women with SMI; (c) Restricted autonomy and exclusion from health decisions prevent women with SMI from accessing SRH care that reflects their needs and rights; and (d) Stigma and gendered expectations around mental illness and sexuality, reinforced by societal norms, discourages care-seeking for the SRH needs of women with SMI. All of these findings were assessed to have moderate confidence.

Conclusion. Women with SMI in LMICs face distinct challenges in accessing SRH services. By considering the multifaceted barriers and facilitators identified in this review, policymakers can create more targeted and equitable interventions that improve accessibility of SRH services for this population.

24. Lancet 2026;407(10543):2040-64

Updated trends in the global prevalence and burden of mental disorders, 1990-2023: a systematic analysis for the Global Burden of Disease Study 2023

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Background: The 2023 iteration of the Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) estimated prevalence, incidence, and health burden for 375 diseases and injuries, including 12 mental disorders. We assess past, current, and emerging trends in the prevalence and burden of mental disorders across sexes and age groups, for 21 regions, 204 countries and territories, and by Socio-demographic Index (SDI) quintile, from 1990 to 2023.

Methods: Mental disorders included in GBD 2023 were anxiety disorders, major depressive disorder, dysthymia, bipolar disorder, schizophrenia, autism spectrum disorders, conduct disorder, attention-deficit hyperactivity disorder, anorexia nervosa, bulimia nervosa, idiopathic developmental intellectual disability, and a residual category of other mental disorders. A literature review identified epidemiological data for each disorder. These were analysed via a Bayesian meta-regression to estimate prevalence by disorder, sex, age, location, and year. Disorder-specific prevalence was multiplied by disability weights representing the severity of health loss associated with each disorder to estimate years lived with disability (YLDs). Deaths due to anorexia nervosa were assessed with a Cause of Death Ensemble modelling strategy to estimate deaths by sex, age, location, and year, and then multiplied by the standard life expectancy at age of death to estimate years of life lost (YLLs). YLDs equalled disability-adjusted life-years (DALYs) for all mental disorders except anorexia nervosa (the only mental disorder considered as an underlying cause of death in GBD), for which DALYs represented the sum of YLDs and YLLs. We presented prevalence, deaths, YLDs, YLLs, and DALYs as counts, age-specific rates per 100 000 population, and age-standardised rates per 100 000 population.

Findings: We estimated 1·17 billion (95% uncertainty interval 1·06-1·31) prevalent cases of mental disorders globally in 2023, equivalent to an age-standardised prevalence rate of 14 210·7 cases (12 849·5-15 940·1) per 100 000 population. These estimates represented a 95·5% (75·0-121·2) increase in prevalent cases and 24·2% (11·4-41·4) increase in age-standardised prevalence rate between 1990 and 2023. All mental disorders showed increases in prevalent cases between 1990 and 2023, while notable increases were seen in age-standardised prevalence rates for anxiety disorders, major depressive disorder, dysthymia, anorexia nervosa, bulimia nervosa, schizophrenia, and conduct disorder. There were an estimated 171 million (127-228) DALYs due to mental disorders globally across sex and age in 2023, equivalent to an age-standardised DALY rate of 2070·5 DALYs (1519·1-2750·5) per 100 000 population. Mental disorders contributed to 6·1% (4·8-7·6) of all-cause DALYs in 2023, making them the fifth leading cause of global DALYs (up from 12th in 1990). DALYs were almost entirely composed of YLDs. Mental disorders were the leading cause of YLDs in 2023 (up from second in 1990), explaining 17·3% (14·8-20·6) of all-cause global YLDs. Leading causes of mental disorder DALYs were anxiety disorders (ranked 11th among the 304 diseases and injuries at Level 4 of the GBD cause hierarchy), major depressive disorder (15th), and schizophrenia (41st). Globally in 2023, mental disorder age-standardised DALY rates were higher among females (2239·6 [1643·7-3014·1] per 100 000) than among males (1900·2 [1399·8-2510·8] per 100 000), and peaked in the 15-19 years age group (2617·3 [1850·6-3696·8] per 100 000). All locations showed increased mental disorder DALY rates in 2023 compared with 1990, ranging across countries and territories from 1302·4 (952·7-1683·7) per 100 000 in Viet Nam to 3555·8 (2661·9-4715·0) per 100 000 in the Netherlands. Across SDI quintiles, DALY rates ranged from 1853·0 (1352·1-2469·3) per 100 000 for middle SDI to 2184·1 (1606·1-2890·3) per 100 000 for high SDI.

Interpretation: A significant health burden was imposed by mental disorders in all countries and territories in 2023, irrespective of the health resources available. In some instances, this burden has increased over time and is unevenly distributed across populations. Stronger surveillance systems, particularly in low-income and middle-income countries, are required. Additionally, we need more coordinated and inclusive policies to reduce the burden through early treatment and prevention, tailored to sex and age differences across locations. Responding to the mental health needs of our global population, especially those most vulnerable, is an obligation, not a choice.

Non-communicable Diseases

25. Health Policy Watch 2026;8 June

Five Years After Landmark Diabetes Initiative: Cause To Celebrate But Even More To Accomplish
Samantaroy S

Five years after the launch of WHO's Global Diabetes Compact (GDC), progress has been made in improving diabetes diagnosis, care, and access to medicines, but immense challenges remain as cases are projected to rise nearly 50% globally by 2050.

Despite insulin's discovery over a century ago, 59% of adults with diabetes—445 million people in 2022, mostly in low- and middle-income countries (LMICs)—still lack appropriate treatment. The South-East Asia region alone requires 170 million insulin vials annually, yet costs of \$6–\$20 per vial make it unaffordable for many. The GDC, endorsed in 2021, sets ambitious 2030 targets: 80% diagnosis and glycaemic control rates, 60% statin coverage for those over 40, and universal access to affordable insulin and blood glucose monitoring for type 1 diabetes patients.

Progress includes the first-ever global diabetes coverage targets, integration of diabetes services into primary care in countries like India, and the inclusion of newer insulin analogues and semaglutide in WHO's Essential Medicines List. WHO's prequalification process now invites generic versions of semaglutide and rapid-acting insulin, aiming to expand access in LMICs. Awareness of access gaps has improved, and stakeholders have united around a common agenda.

However, 43% of people with diabetes remain undiagnosed, and treatment rates have seen only single-digit percentage increases since 2000. Data gaps persist, particularly for type 1 diabetes in the Global South, where undiagnosed children may die young. Stigma and misdiagnosis further complicate care. In Africa, only 1% of global diabetes spending is directed, with 72·6% of cases undiagnosed and a projected 140% increase by 2050. South-East Asia faces a "shocking trajectory," with one in five

adults living with diabetes, yet only one in three receiving treatment and fewer than 15% achieving glycaemic control.

Innovations like the SEAHEARTS initiative, which has enrolled 43.5 million patients across 180,000 facilities, and the Colombo Call for Action offer hope. Yet, manufacturers discontinuing key products (e.g., Sanofi's Insuman, Novo Nordisk's Levemir) and persistent access barriers to basics like insulin and diagnostic tools underscore the urgent need for scaled action to meet the GDC's ambitious goals.

Ophthalmology

26. Am J Ophthalmol 2026;285:120-31

Global, Regional, and National Burden of Blindness and Vision Loss in Individuals Aged 0 to 24 Years, 1990 to 2021: Divergent Trends, Inequalities and Projections Based on Global Burden of Disease 2021

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Purpose: To assess the global burden of blindness and vision loss (BVL) in individuals aged 0 to 24 years from 1990 to 2021, project trends, and analyze inequalities.

Design: Systematic epidemiological analysis of the Global Burden of Disease 2021 database.

Participants: Data from 204 countries and territories, stratified by age, sex, and Socio-Demographic Index (SDI).

Methods: Age-standardized prevalence rates (ASPR) and disability-adjusted life years (DALYs) were extracted from Global Burden of Disease 2021. Estimated annual percentage changes (EAPC) quantified trends. Analyses included decomposition, age-period-cohort modeling, frontier analysis, and inequality assessment via the Slope Index of Inequality and Concentration Index.

Main outcome measures: ASPR and DALYs for BVL.

Results: From 1990 to 2021, the global age-standardized DALY rate decreased (EAPC: -0.20; 95% CI: -0.36 to -0.03), while ASPR slightly increased (EAPC: 0.02; 95% CI: -0.20 to 0.24). Absolute case numbers rose due to population growth. Females and older adolescents (15-24 years) bore a disproportionately higher burden. Low and middle SDI regions exhibited rising ASPR, while high SDI regions showed declines. Projections suggest rising total cases by 2030, with modest declines in ASPR and DALY rates. Frontier analysis indicated substantial improvement potential in several countries.

Conclusions: Despite a global decrease in the health loss from BVL, the absolute number of affected young individuals is rising. The burden remains unequally distributed, with relative inequalities increasing over time. Targeted public health policies focusing on prevention, early intervention, and equitable resource allocation-especially in low SDI regions and among older adolescents-are urgently required.

Pharmaceuticals / AMR

27. Bull World Health Organ 2026;104(5):287–287A

Editorial

Improving national alignment to mark 50 years of WHO's essential medicines lists

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In 1977, the World Health Organization (WHO) published the first WHO Model list of essential medicines to determine which medicines were so vital to public health that every health system should ensure their availability. Developed in response to growing awareness that medicine policies must reflect population needs rather than market forces, the model list aligned with principles later enshrined in the Alma-Ata Declaration. The model list's purpose was pragmatic: to support rational selection, efficient procurement and equitable access in settings where resources were, and remain, constrained.

By defining a core set of medicines with proven clinical value, comparative effectiveness, and acceptable safety, the WHO model list created a shared language for clinicians, payers and

manufacturers. The model list also offered a template for countries to develop national essential medicines lists tailored to their epidemiological needs and budgetary realities. The early focus on primary care and affordable treatments reflected both the disease burden of the time and the need to build a foundation for universal access.

Fifty years on, the concept of essential medicine remains relevant. The WHO model list has evolved to include new therapeutic classes, biologics and medicines for noncommunicable and rare diseases, while maintaining rigorous standards for evidence and relevance. Initiatives such as the Lancet commission on accelerating progress on essential medicines explore how the WHO model list can continue to guide countries towards universal health coverage, emphasizing prioritization of medicines at country level based on clinical value and public health impact across all income levels. WHO collaborating centres are also preparing for the model list's fiftieth anniversary with regional and editorial initiatives.

Nonetheless, governments must be held accountable for ensuring their national lists are up to date and aligned with the principles of the WHO model list. Although Member States formally endorsed the essential medicines concept at the 1978 World Health Assembly, national adoption remains uneven. Some variation between national lists and the WHO model list is expected, reflecting local epidemiology and health system priorities. However, divergences rooted in outdated procurement habits, ineffective or suboptimal medicine choices, or irregular updates undermine the selection framework's integrity. Fragmentation in prioritization weakens purchasing power, complicates forecasting and strains supply chains. Smaller markets struggle to attract multiple suppliers of quality-assured medicines, limiting competition and increasing the risk of shortages.

Moreover, the quality of many national lists is inadequate. Recent studies show that many lists lack details on formulations and treatment indications, impairing their function as procurement tools. National lists should specify recommended alternatives within a therapeutic class and state indications to support volume planning. For example, the WHO model list includes glucagon-like protein-1 receptor agonists specifying which agents (semaglutide, liraglutide, dulaglutide and/or tirzepatide), which formulations and strengths (for semaglutide: injection 0.68 mg/mL, 1.34 mg/mL and 2.68 mg/mL) and for which indications (for example diabetes, in patients with coexisting cardiovascular disease and obesity) they are recommended. Indications are critical, as they determine the eligible patient population and procurement volume. Extending this class to patients with obesity alone on national lists is legitimate but entails an increase in costs, as it expands the eligible population, leading to higher demand, greater procurement volumes and a rapid rise in overall expenditure.

As the fiftieth anniversary of the WHO model list approaches, requesting greater accountability from national decision-makers is important. Rather than expanding lists indiscriminately or making symbolic additions that may not align with budgetary realities, policy-makers need to reassess how national lists can better serve public health goals. Countries may wish to explore how clearly defined indications can help transform their lists into effective policy tools. Clarifying formulations, such as dosage forms, strengths and delivery systems, could support more efficient procurement and use. Identifying age-appropriate formulations to help stimulate the availability of child-friendly products, would also be valuable. Making national lists publicly accessible and governed transparently can foster alignment among clinicians, patients and suppliers. Importantly, doing so is a shared endeavour: all countries, regardless of income level, stand to benefit from maintaining a clear, current and functional essential medicines list. Paradoxically, many high-income countries still lack formal, public national lists. WHO encourages countries to consider the fiftieth anniversary of the WHO model list as an opportunity to reflect on increasing total pharmaceutical expenditure and to renew the commitment to medicine policies aimed at stabilizing prices.

The WHO model list remains a living instrument that helps countries focus resources to where they can do the best; the list supports stewardship and appropriate use, and provides a credible anchor for procurement strategies, guideline development and government accountability.

28. HPP 2026;41(5):898-912

Pain, policy, and the opioid dilemma in sub-Saharan Africa: a systematic review of access, regulation, and health governance from 1990 to 2024

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Sub-Saharan Africa (SSA) faces a dual opioid dilemma: widespread undertreatment of moderate to severe pain due to limited access to essential opioid analgesics, alongside increasing concern about misuse and diversion in selected contexts. Opioids are clinically indicated for severe cancer-related pain, advanced chronic illness, major trauma, surgery, and end-of-life care; yet, regional consumption remains disproportionately low relative to documented disease burden, indicating systemic under-provision rather than low need. This systematic review synthesizes evidence on opioid policy, regulation, access, and governance in SSA to examine how legal frameworks, institutional arrangements, political dynamics, and data systems shape medical availability. Following PRISMA and SWiM guidance, we reviewed peer-reviewed and gray literature addressing national drug control laws, regulatory implementation, procurement and supply systems, prescribing authority, and surveillance capacity; 33 studies met inclusion criteria. Across settings, restrictive or ambiguously interpreted legislation, multi-layered administrative controls, fragmented mandates across health and enforcement institutions, weak forecasting and distribution systems, concentrated prescribing authority, professional risk aversion, and chronic data gaps were consistently associated with constrained access. Concurrently, rising political and media attention to non-medical use, particularly of tramadol, has reinforced enforcement-oriented narratives that may further limit reform space. Persistent deficiencies in routine consumption data and unmet need assessment contribute to conservative import quotas and regulatory inertia. Addressing this imbalance requires proportionate, sequenced reform that strengthens data and forecasting systems, clarifies and aligns legal mandates with public health objectives, invests in workforce capacity and supply chains, and embeds safeguards against diversion while correcting avoidable under-treatment.

29. Health Policy Watch 2026;May 5

WHA Member States Approve Antimicrobial Resistance Strategy After Resolving Tech Transfer Debate

Anderson S

WHO member states approved a landmark 10-year global action plan to combat antimicrobial resistance (AMR) at the 79th World Health Assembly, resolving a months-long debate over technology transfer. The strategy (2026–2036) targets a 10% reduction in AMR-associated deaths by 2030, marking WHO's first major AMR overhaul since 2015.

AMR now causes nearly five million annual deaths, with 1.14 million directly attributable to drug-resistant bacterial infections—a six-fold rise over the past decade. Unchecked, it could cut global life expectancy by 1.8 years by 2030, cause 39 million deaths by 2050, and cost \$575 billion in GDP losses. Low- and middle-income countries suffer most, with death rates 1.5 times higher than in high-income nations, and 99.65% of child AMR deaths occurring in poorer countries.

The plan shifts focus from new drug development to prevention, prioritizing infection control, water and sanitation, vaccination, biosecurity, and pollution prevention. It recognizes that existing antibiotics can last longer if resistance drivers—overuse, poor sanitation, low vaccination—are addressed.

Environmental obligations, including pharmaceutical manufacturing discharges and agricultural run-off, are now explicitly included.

A key dispute involved technology transfer. Brazil, Colombia, and Indonesia opposed initial language restricting sharing to "voluntary and mutually agreed" terms, arguing it ignored WTO TRIPS provisions allowing compulsory licensing during health emergencies. The compromise promotes knowledge sharing "respecting international and national rules," preserving countries' rights to override patents in crises. European states and pharma continue to favor voluntary transfer, while China pushed for a more comprehensive mechanism.

The plan highlights critical gaps: conflict zones like Sudan lack dedicated guidance despite accelerated resistance in war-torn areas, and over half of substandard medical products reported to WHO are antimicrobials, worsening the crisis. With only 10% of countries reporting dedicated AMR funding and 29% having costed plans, the strategy emphasizes translating global commitments into national action. WHO will report progress in 2027, 2029, and 2031.

30. Lancet 2026;407(10535):1220-1

World Report
Building momentum at the African Medicines Agency
Green A.

(Abbreviated)

Launched in 2025, Africa's new medicines regulator is working to win the support of countries to meet its extensive agenda.

Although the African Medicines Agency (AMA) has been operational for less than a year, it already has an extensive to-do list: harmonising regulations across the continent, improving domestic oversight capacity while building its own ability to regulate medical products, and leading efforts to safeguard consumers from falsified and substandard medicines—all while aiming to spur regional pharmaceutical manufacturing.

That regulatory harmonisation will be done in consultation with governments, and much of the actual implementation will be conducted by the NRAs (national regulatory authorities).

In some instances, the complexity of the product—eg, biologics, vaccines, or advanced therapeutics—might exceed the capacity of NRAs. In these cases, the AMA could coordinate expertise at a continental level, according to Lenias Hwenda, the founder and CEO of Medicines for Africa.

There is already evidence that pharmaceutical companies are eager for these kinds of continental mechanisms.

The other area where observers are looking for quick action from the AMA is regulation of substandard and falsified medicines. A 2024 systematic review estimated nearly 23% of all medicines in Africa were substandard or falsified. WHO estimates that substandard or falsified malaria drugs alone could account for 72 000–267 000 deaths in sub-Saharan Africa per year. Experts say that they circulate in such high numbers because of poor regulations and the demand for affordable treatment.

31. Lancet Glob Health.2026;14(4):e524-e538

Strategies to reduce antimicrobial resistance in newborns in low-income and middle-income countries: a systematic review and meta-analysis

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Background: Optimal strategies to reduce antimicrobial resistance (AMR) and their effect on newborns in low-income and middle-income countries (LMICs) remain unclear. We assessed the effectiveness of AMR mitigation strategies for newborn care in LMICs.

Methods: A systematic review and meta-analysis was conducted. We searched MEDLINE, Embase, CINAHL, Global Index Medicus, Cochrane Central Register of Controlled Trials, and grey literature from Jan 1, 2000, to Nov 20, 2025, for randomised or quasi-randomised trials, quasi-experimental studies, observational or implementation studies, and programme evaluations. We included studies comparing any intervention, policy, or strategy designed to mitigate AMR development and spread (intervention) among newborns receiving facility-based or community-based care in LMICs (population), with standard practices or no intervention (comparator), on a range of outcomes including clinical and antibiotic use outcomes (outcome). Strategies to reduce AMR were categorised as regulation (structural or organisational actions), education (health-care worker trainings), or optimisation (responsible antimicrobial use). We pooled data from included studies to estimate the effectiveness of each of the three strategy types or a combination thereof. Given the low-resource context, we also narratively synthesised the available evidence on barriers and facilitators to implementing strategies to reduce AMR in newborn care settings (PROSPERO CRD42023388338).

Findings: Of 3688 studies screened, 31 facility-based studies were included. Regulation reduced the risk of newborns receiving at least one antimicrobial by 21% (risk ratio 0·79 [95% CI 0·77-0·80]), but had no effect on neonatal sepsis risk. Optimisation reduced culture-positive sepsis risk by 32% (0·68 [0·55-0·83]) and risk of newborns on antibiotics by 13% (0·87 [0·78-0·98]), but had no effect on neonatal mortality risk. Regulation and optimisation did not significantly reduce neonatal mortality due to nosocomial bloodstream infection (BSI) risk (0·62 [0·31-1·25]). Regulation, education, and optimisation reduced neonatal mortality risk by 27% (0·73 [0·57-0·93]) and multidrug-resistant organism infections or colonisation risk by 29% (0·71 [0·52-0·97]). Regulation, education, and

optimisation also decreased the risk of newborns receiving antibiotics by 29% (0.71 [0.61-0.81]) and the risk of duration of antibiotic therapy exceeding 5 days by 64% (0.36 [0.14-0.93]). Effect direction plots revealed overall positive directions of effect for outcomes including neonatal mortality (72.72%), neonatal mortality due to nosocomial BSI (100%), sepsis (75%), and drug-resistant (100%) and multidrug-resistant (80%) infection and colonisation. Effect direction plots also showed decreased overall antibiotic use (94.7%), access (71.4%) and watch (88.9%) antibiotic use, and duration of antibiotic therapy (83.3%) after strategies to reduce AMR were implemented. Common implementation barriers included delays in reporting culture test results, health-care worker non-adherence to infection prevention and control measures, and challenges in antibiotic prescribing for culture-negative newborns with sepsis-like presentation.

Interpretation: To improve clinical outcomes, interventions targeting the control of antimicrobials alone will not suffice. Our results showed that three types of interventions (regulation, education, and optimisation) must be taken together to reduce AMR. These results can inform and accelerate guidance development for multi-dimensional, holistic, and integrated maternal and newborn care programmes in LMICs.

32. PLoS Med 2026;23(2):e1004941

Better, not just fewer: Rethinking antibiotic prescribing

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Antimicrobial resistance (AMR) is among today's most pressing global health threats, responsible for millions of deaths annually and placing an enormous burden on health systems worldwide. A major driver of this crisis is the inappropriate and often unnecessary use of antibiotics, particularly in primary care settings where most prescriptions originate. In these contexts, clinicians often face diagnostic uncertainty, limited access to laboratory testing, and overwhelming patient loads—factors that encourage precautionary prescribing even when antibiotics are not clinically indicated. The challenge is especially acute in sub-Saharan Africa, where systemic resource constraints intersect with high infectious disease burdens. Here, the consequences of unnecessary antibiotic use extend beyond individual patient harm to the population itself, where AMR is selected for and propagated, undermining treatment efficacy for common infections.

Among the strategies proposed to address this issue, clinical decision support tools have gained attention for their potential to improve prescribing practices. While promising, these tools are not a panacea; their success depends on integration within broader antimicrobial stewardship frameworks that combine technology with behavioral, organizational, and policy interventions.

In a recent PLOS Medicine study, Kulinkina and colleagues conducted a pragmatic, cluster non-randomized trial across 32 health centers in Rwanda, involving nearly 60,000 consultations with acutely ill children aged 14 years or younger. The trial aimed to evaluate the impact of ePOCT+ (a digital clinical decision support algorithm that provides guidance on antibiotic prescribing practices in routine primary care) not only on whether to prescribe antibiotics, but also on drug selection (including first- and second-line options), dosing, and duration. The intervention was implemented through a tablet-based application and designed to assist clinicians (primarily nurses, who provide most pediatric outpatient care in Rwandan public health centers) in managing acute illness. The findings were striking: Antibiotic prescription rates fell from approximately 70% under standard care to about 25% with ePOCT+, without evidence for relevant negative clinical impacts. While clinical failure and severe outcomes were slightly more frequent in some analyses, these differences were within the predefined non-inferiority margin and likely reflect residual imbalances between clusters—a fundamental limitation of the non-randomized design, which introduces potential for selection bias and confounding. Importantly, a parallel cluster randomized controlled trial of the same ePOCT+ intervention conducted in Tanzania demonstrated a nearly identical reduction in antibiotic prescribing without increased clinical failure, strengthening confidence in the causal effects observed in Rwanda. Besides the large sample size, the incorporation of point-of-care tests like hemoglobin, C-reactive protein, and pulse oximetry alongside the inclusion of ongoing clinical mentorship to support uptake of the intervention were major strengths of the trial. However, important limitations remain: Incomplete intervention uptake (averaging around 70%, reflecting challenges in workflow integration

and high staff turnover); reliance on clinician-reported prescribing data, which may have led to overestimated adherence and introduced potential reporting bias; and absence of adjustment for prescriber characteristics. Also, the study was not powered to detect rare adverse outcomes or unintended consequences. Despite these caveats, the trial provides compelling evidence of the potential for structured decision support to improve antibiotic stewardship in resource-limited settings. While digital and guideline-based interventions hold promise for improving antibiotic stewardship, their success is far from guaranteed (see Box 1). Evidence from multiple settings shows that these tools often fail when implemented in isolation, largely because prescribing behavior is shaped by complex cognitive and systemic factors. Clinicians operate under time pressure, diagnostic uncertainty, and patient expectations, all conditions that foster decision fatigue and reliance on trial and error, biased heuristics, or educated guesses. Without proper training and complementary behavioral change strategies, even well-designed algorithms risk being sidelined. //

Clinical decision support algorithms such as ePOCT+ show promise for improving prescribing practices and mitigating AMR. However, their success hinges on more than technology alone: It requires system-level integration, continuous monitoring of adherence, and sustained investment to ensure these tools become a cornerstone of comprehensive antimicrobial stewardship strategies.

Primary Health Care

33. HPP 2026;41(5):831-48

Primary health care-oriented reforms: the political economy dynamics underlying health-system shifts across nine countries

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Using evidence from nine countries (Democratic Republic of Congo, Dominica, Egypt, Kazakhstan, Kenya, New Zealand, Thailand, Tunisia, and Uruguay), we analyze the political economy dynamics that emerged during implementation of primary health care (PHC)-oriented reforms. Across these cases, we identify 10 recurring health-system “shifts” toward stronger PHC orientation, which serve as a descriptive framework for examining the political economy challenges reformers faced and the strategies they used to navigate them. Primary data were collected from 356 participants through key informant interviews, focus groups, and expert consultations and were triangulated with document review. Using deductive mapping and inductive thematic analysis, we identify 10 PHC-focused health-system shifts present in some or all of the cases. These entailed shifts from: (i) short-term initiatives with limited scope to long-term, system-wide transformations; (ii) centralized control to devolved multilevel governance; (iii) hospital-centric resource allocation to strategic reallocations favoring primary care; (iv) physician-dominated care to multidisciplinary teams including non-physician providers; (v) siloed disease-focused services to integrated models of comprehensive care; (vi) peripheral, minimally regulated private sectors to their integration and actively state-stewarded participation; (vii) passive input-based budget allocations and provider payments to strategic purchasing; (viii) perceiving citizens as passive recipients of care to building active community engagement; (ix) ad hoc data collection to embedded learning and accountability; and (x) externally driven changes to local ownership for reforms.

Reforms routinely triggered political economy dynamics—opposition from physicians, hospitals, specialists, and central bureaucracies; citizen skepticism; and capacity and patronage challenges under devolution. Strategies to address these included: high-level endorsement and passage of legislation; use of political and economic windows of opportunity; local capacity-building; decentralized autonomy; formal engagement with physician associations; regulated private sector participation; strategic purchasing to incentivize a PHC approach; strong data systems and assessments; community engagement; and locally grounded design with domestic capacity and financing. The paper underscores the value of anticipating political economy dynamics for designing and implementing PHC-oriented reforms.

Sexual Reproductive Health and Rights

34. BMJ Global Health 2026;11:e020597

Costs and benefits of replacing preventive antenatal iron and folic acid with multiple micronutrients in 25 low- and middle-income countries

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Introduction Micronutrient deficiencies during pregnancy have serious consequences for both mother and child; thus the longstanding standard of care in low- and low-middle income countries (LMICs) has been daily prenatal iron–folic acid (IFA) supplementation. While prenatal multiple micronutrient supplements (MMSs) provide additional significant benefits in comparison to IFA supplements, the view that MMS is too expensive has hindered national MMS adoption. However, increased competition, volume procurement and the use of advanced purchase commitments have significantly reduced the cost of MMS.

Methods Using new cost data, we estimate the benefits of replacing IFA with MMS in both health (averted low birth weights (LBWs), stillbirths and female neonatal mortality) and monetary (costs of averted LBW and death; total economic value; benefit–cost ratios) terms in 25 LMICs with the greatest burden of LBW. A number of scenarios describing different coverage and procurement cost scenarios are explored.

Results Replacing preventive antenatal IFA with MMS would avert 3 514 594 LBW births, 186 369 stillbirths and 218 914 female neonatal deaths over 5 years in these countries. Providing MMS to all pregnant women receiving at least one antenatal care visit averts 7 272 320 LBW, 473 471 stillbirths and 541 591 female neonatal deaths. The total cost of replacing IFA with MMS ranges from US\$201.8 million to US\$1.326 billion, equivalent to between 0.5% and 3.0% of current spending on efforts to reduce undernutrition. Using the most conservative estimate, this would generate US\$7.19 billion in economic returns and a benefit–cost ratio greater than 10. The cost of averting a stillbirth or neonatal death ranges from US\$497 to US\$1306.

Conclusion Replacing prenatal IFA with MMS cost-effectively generates large health benefits.

35. BMJ Global Health 2026;11:e023363

Aligning neonatal sepsis triage diagnostics with WHO target product profiles in low- and middle-income countries

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Neonatal sepsis is a leading cause of infant morbidity and mortality in low- and middle-income countries (LMICs), yet despite this, progress in the development and implementation of effective diagnostics has been limited. Current diagnostic methods rely on clinical assessments of nonspecific signs and symptoms, limited laboratory testing and technologies that are inaccessible, unaffordable or unsuitable for resource-constrained settings. There is an urgent need for reliable, affordable and context-appropriate point-of-care diagnostics.

This analysis synthesises evidence across current and emerging diagnostic strategies for neonatal sepsis, including clinical algorithms, host-response biomarkers, haematological parameters, continuous monitoring and artificial intelligence-based digital platforms. We assess their performance, operational feasibility in LMICs and alignment with the WHO Target Product Profile (TPP) for neonatal sepsis, including requirements for highly sensitive triage, feasibility in non-hospital settings and suitability for use at the point of care in LMICs.

We identified promising existing technologies and emerging approaches that could be used to address the challenges of diagnosing neonatal sepsis in LMICs. These include host-response biomarkers that offer greater accuracy than those currently used, as well as affordable technologies that can improve current predictive algorithms. Taken together, these findings support a move towards integrated, TPP-aligned diagnostic strategies that combine affordable point-of-care testing, routine clinical data and digital decision support to improve early detection, rationalise antibiotic use and reduce neonatal mortality.

36. BMJ Global Health 2026;11:e020883

Feasibility, acceptability and effectiveness of group antenatal care on maternal health continuum of care and perinatal outcomes in sub-Saharan Africa: a systematic review and meta-analysis
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Background Group antenatal care (G-ANC), integrating medical care with education, has demonstrated positive effects on maternal and newborn health. Individual studies have shown promising evidence in sub-Saharan Africa, but systematically synthesising the existing research would facilitate implementation and identify gaps for further research. This systematic review aimed, therefore, to review the existing evidence on feasibility, acceptability and effectiveness of G-ANC in resource-limited settings to guide policy and support implementing G-ANC to reduce maternal and perinatal mortality.

Methods A systematic and comprehensive literature search was conducted in the PubMed/MEDLINE, Web of Science, Cumulative Index to Nursing and Allied Health Literature (CINAHL), Excerpta Medica Database (Embase) and Google Scholar electronic databases. The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines for systematic reviews and meta-analyses of healthcare interventions were followed. Data were extracted using a prespecified protocol and quality was assessed using the Joanna Briggs Institute appraisal tool. Random-effects meta-analyses were used to pool estimates. The review is registered on the International Prospective Register of Systematic Reviews (PROSPERO: CRD42024565501).

Results Of the 576 articles identified, 34 articles with 42 234 participants were included. G-ANC increased the likelihood of attending four or more ANC visits (pooled risk ratio (RR)=1.45; 95% CI 1.22 to 2.82), was associated with the likelihood of attending postnatal care visits (RR=1.23; 95% CI 1.03 to 1.47), increased uptake of postpartum family planning methods (RR=1.85; 95% CI 1.26 to 2.73) and was associated with improved birth weight (RR=1.53; 95% CI 1.09 to 2.14). It was also associated with improved quality of care, health literacy, psychosocial gains, empowerment and facilitating culturally sensitive discussions. There was, however, no significant difference found between groups regarding likelihood of giving birth at health facilities compared with the traditional ANC. Also, no cost-effectiveness studies of G-ANC were identified in sub-Saharan Africa, highlighting a key evidence gap for guiding future implementation and scale-up.

Conclusions Exposure to G-ANC enhances utilisation of maternal healthcare such as ANC attendance, postnatal care, family planning uptake and improves birth weight. It also improves maternal engagement, health literacy and empowerment through a highly participatory learning approach and peer support. Nevertheless, no notable difference was observed between the groups in terms of likelihood of giving birth in health facilities.

37. Lancet Glob Health 2026;14(4):e560-e569

The effect of tranexamic acid during childbirth on maternal mortality: an epidemiological modelling and cost-effectiveness study

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Background: Tranexamic acid reduces life-threatening bleeding after childbirth. We aimed to identify the settings where tranexamic acid cost-effectively reduces maternal deaths from bleeding.

Methods: We used WHO mortality data and effect estimates from our individual patient data meta-analysis to develop an epidemiological and cost-effectiveness model to calculate the absolute benefit (postpartum haemorrhage deaths averted) and potential harm (deaths from inadvertent intrathecal tranexamic acid injection) in each country, if all women received 1 g intravenous tranexamic acid when giving birth. We examined how benefits and harms vary by the risk of postpartum haemorrhage death to identify where the benefits outweigh the possible harms. We assessed cost-effectiveness using tranexamic acid costs and country's ability-to-pay estimates.

Findings: Giving tranexamic acid to all women giving birth reduced mortality in countries where the risk of postpartum haemorrhage death was five or more deaths per 100 000 births. Considering the average opportunity costs of treatment, tranexamic acid was cost-effective when the risk of postpartum haemorrhage death was 20 or more deaths per 100 000 births. However, due to variability in the

ability to pay, tranexamic acid might not be cost-effective in 73% of countries with 20 or more postpartum haemorrhage deaths per 100 000 births.

Interpretation: Giving tranexamic acid to all women giving birth would reduce maternal deaths in Africa, south Asia, southeast Asia, and central and southern America, where most postpartum haemorrhage deaths occur. However, because these are regions with low ability to pay, even this highly effective treatment might not be cost-effective. Tranexamic acid must be made available and affordable in these settings. In high-income countries where risk of postpartum haemorrhage death is very low, the balance of risks and benefits is uncertain and further research is needed.

Other papers about this subject:

* BMJ 2026; 393:e089636

Prophylactic tranexamic acid for the prevention of postpartum haemorrhage in women with placenta praevia: multicentre, double blind, randomised, placebo controlled, phase 3 trial

* BMJ 2026;393:s818

Editorial. Tranexamic acid for preventing severe bleeding in caesarean births

38. Lancet Glob Health 2026;14(5):e702-e713

Measuring antenatal care timing and content across 131 low-income and middle-income countries, 1995-2023: a systematic analysis of trends

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Background: Timely and comprehensive antenatal care can improve maternal and perinatal health by enabling early detection and treatment of pregnancy complications. We estimated the content and timing of antenatal care visits for 131 low-income and middle-income countries (LMICs) from 1995 to 2023.

Methods: We systematically identified population-representative data sources capturing antenatal care timing and content. We selected five widely measured indicators of antenatal care screening and prevention services: iron supplementation, measurement of weight and blood pressure, and provision of blood and urine samples. We modelled the proportion of women with a livebirth reporting all five items (antenatal care content proportion), mean number of items reported (antenatal care content mean), proportion with first trimester antenatal care attendance, and mean number of antenatal care visits using spatiotemporal Gaussian process regression.

Findings: Across LMICs, the proportion of women with a livebirth who initiated antenatal care in the first trimester increased from 46.2% (95% uncertainty interval 42.2-49.9) in 1995 to 63.7% (62.8-64.5) in 2023, and the average number of antenatal care visits during pregnancy rose from 3.7 (3.4-4.0) to 6.0 (5.9-6.1). In 2023, 69.3% (68.4-70.1) of women with a livebirth received all five antenatal care items, a major increase from 1995 (25.9% [24.1-27.8]). In 2023, the proportion of women who attended antenatal care but did not receive all five items (26.2% [25.5-27.0]) exceeded those who did not attend antenatal care at all (7.1% [6.5-8.1]). The receipt of all five items also varied by geography: 79.2% (77.6-80.5) in Latin America and the Caribbean received all five items, compared with 59.8% (58.4-60.9) of women in sub-Saharan Africa.

Interpretation: Despite improvements in the receipt of basic elements of antenatal care from 1995 to 2023, health systems continue to miss opportunities to deliver important care to women who attend antenatal care. The identified gaps in coverage should be targeted for improvement to support receipt of timely and effective health care that improves maternal and neonatal health.

39. PLoS Med 2026;23(4):e1004994

Identifying novel prodromal symptoms of eclampsia: A two-country, case-control study

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Background. Magnesium sulphate halves the risk of eclampsia. There is no consensus on who to give magnesium sulphate prophylaxis because clinical tools are poor at identifying those at risk. Known

prodromal symptoms such as headache, visual disturbance, or epigastric pain have modest associations with eclampsia. We set out to identify new prodromal symptoms of eclampsia. **Methods and findings.** This case-control study prospectively recruited participants in South Africa and Pakistan who had eclampsia, preeclampsia, or normotensive pregnancies. We asked whether they experienced 20 neurological symptoms, within 7 days of the seizure for those who had eclampsia. The primary analysis was the likelihood of symptoms occurring before eclampsia, compared to being present with preeclampsia.

341 participants were recruited with eclampsia, 1,355 with preeclampsia and 389 with normotensive pregnancies. When comparing symptoms among those who had eclampsia versus preeclampsia, the odds ratios (OR) were 2.56 (95% confidence interval (CI) [1.81,3.62]; $p < 0.001$) for headache, 5.73 (95% CI [4.44,7.39]; $p < 0.001$) for visual disturbances and 2.25 (95% CI [1.76,2.89]; $p < 0.001$) for epigastric pain. We identified 10 symptoms with odds ratios over 10 for eclampsia. Odds ratios were 42.03 (95% CI [23.66,74.68]; $p < 0.001$) for twitching/jerking limbs (30.5% eclampsia versus 1% preeclampsia); 36.00 (95% CI [18.34,70.65]; $p < 0.001$) for affected hearing (21.1% versus 0.7%); 33.60 (95% CI [21.39,52.78]; $p < 0.001$) for affected mind state (38.7% versus 1.8%); 33.12 (95% CI [19.46, 54.37]; $p < 0.001$) for impaired speech; 23.71 (95% CI [16.49,34.10]; $p < 0.001$) for feelings of doom; 26.59 (95% CI [7.82,90.41]; $p < 0.001$) for severe vertigo; 20.52 (95% CI [14.22,29.63]; $p < 0.001$) for confusion; 18.16 (95% CI [10.76,30.66]; $p < 0.001$) for jitters; 15.18 (95% CI [11.34,20.33]; $p < 0.001$) for difficulty concentrating; and 10.49 (95% CI [6.76,16.27]; $p < 0.001$) for weakness/paralysis. These symptoms were rare among normotensive pregnancies. Only 2.4% of women with eclampsia did not experience any prodromal symptoms. This study is limited by the fact that we asked about prodromal symptoms after the seizure happened, and the potential for recall bias. **Conclusions.** Ten prodromal symptoms exhibit far stronger associations with eclampsia than headache, visual disturbances, or epigastric pain. Eclampsia is uncommon without any prodromal symptoms. It may be useful to screen these symptoms among women with preeclampsia as part of clinical history taking to guide management. They could help direct magnesium sulphate prophylaxis to those with a higher risk of eclampsia.

40. PLoS Med 2026;23(4):e1005055

Quality of antenatal and delivery care and postnatal care use: A multi-country observational study of 400,000 births

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Background. Postnatal care (PNC) plays a crucial role in averting newborn mortality, yet its use remains low, particularly in regions with the highest mortality. While demographic and social determinants of PNC use have been well studied and have informed current strategies focused on changing care-seeking behaviors, the stagnating decline in neonatal mortality highlights the need for upstream and system-wide approaches to increase PNC uptake. Limited evidence exists to guide system-level reforms; therefore, we investigated whether health systems that ensure high-quality perinatal care are associated with increased use of PNC.

Methods and findings. We performed a cross-sectional observational study using Demographic and Health Survey data from 38 countries that had not met SDG neonatal mortality targets by 2020. The study population comprised women aged 15–49 years whose most recent live birth occurred within five years preceding the survey. We employed logistic regression models with country fixed effects to examine associations between: (1) perinatal service utilization, (2) service quality; and their relationship with postnatal checkups for newborns within 28 days. We analyzed utilization-quality interactions to determine how the effects of service coverage on PNC use varied by care quality and conducted wealth-stratified analyses to assess how quality effects on PNC use differed across socioeconomic groups. High-quality perinatal care was associated with a 2-fold increase in the probability of postnatal checkups within 28 days (0.406 in the highest quality tertile versus 0.221 in the lowest quality tertile). For mothers who received the lowest tertile of service quality, full utilization of perinatal services yielded negligible changes in postnatal checkup probability (0.217 to

0.216). Conversely, for mothers who received the highest quality of antenatal and perinatal care, full access to perinatal care improved the probability of postnatal check-ups (0.392 to 0.428). Notably, women in the lowest wealth quintile experienced a substantial increase in postnatal checkup probability from 0.224 to 0.481 between low and high-quality care cohorts, while this differential was less pronounced in the highest wealth quintile (0.236 to 0.450). Key limitations include restricted quality indicators, potential recall bias from self-reported measures, limited information on follow-up care, and the cross-sectional nature of the data, which limits causal interpretation.

Conclusions. Our interaction analysis reveals a critical insight: high-quality care substantially enhanced the magnitude of the association between expanded perinatal service use and PNC use, whereas increased utilization alone was not linked to higher PNC uptake. Notably, the impact of improved care quality was most pronounced among the lowest wealth groups, highlighting its potential as a mechanism for promoting equity. By demonstrating the central role of care quality in promoting PNC utilization, particularly among disadvantaged populations, our findings suggest that improving health system quality could be a more effective strategy for achieving universal maternal healthcare coverage than traditional access-focused approaches.

Tuberculosis

41. JAMA 2026;335(18):1565

WHO Releases New Tuberculosis Testing Guidelines

Anderer S.

The World Health Organization (WHO) released new guidelines on tests for tuberculosis, encouraging the use of portable diagnostics, pooling of sputum samples, and tongue swabs.

Near-point-of-care nucleic acid amplification tests are easy to use and bring tuberculosis diagnosis “closer to where people routinely seek care,” the WHO said in a press release. The battery-operated tests are less than half the cost of many existing diagnostics and deliver results in less than an hour. The WHO said that the tests may help countries expand testing access and allow patients to start receiving treatment earlier.

To help reduce costs and produce faster results, the guidelines also recommend a process known as sputum pooling, in which samples of the thick mucus produced by the lungs are tested from several individuals together. And for people who cannot produce sputum—who are often at increased risk of dying from tuberculosis—tongue-swab samples may enable disease detection, the WHO said.

Miscellaneous

42. Lancet Glob Health 2026;Jun 3:103994

WHO estimates of the global, regional, and national burden of 42 foodborne infectious and chemical hazards, 2000-21: an updated data synthesis

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Background: Foodborne diseases are important causes of illness and death. The first estimates of their burden were published by WHO in 2015. We updated WHO estimates of the global, regional, subregional, and national foodborne disease burden caused by 42 infectious and chemical hazards in 2021, including time trends for 2000-21.

Methods: We provide a high-level summary of foodborne disease burden, expressed as incidence, deaths, and disability-adjusted life-years (DALYs). Data for burden estimation were provided from a WHO-commissioned series of systematic reviews on the incidence, aetiology, sequelae, and case fatality or mortality of the hazards. Data were analysed using hierarchical meta-regression modelling with geographical clustering and a global linear time trend, disease-specific computational models, and uncertainty propagation through Monte Carlo simulations to calculate 95% uncertainty intervals. Attribution to foodborne transmission was principally based on a structured expert judgement process. Economic impact was measured as lost productivity.

Findings: For 2021, foodborne transmission of the 42 hazards caused 866 million (95% uncertainty interval 680-1090) illnesses, 1·52 million (0·783-2·51) deaths, and 57·1 million (39·4-81·1) DALYs. Inorganic arsenic, lead, and non-typhoidal *Salmonella enterica* (diarrhoeal and invasive disease) resulted in the most DALYs. The greatest burden of foodborne disease was in the African and South-East Asia regions. The incidence in children younger than 5 years was 2·7 times higher than in people aged 5 years or older, resulting in 4·3 times the rate of DALYs. The total burden from all hazards decreased over time. In 2021, these 42 hazards resulted in productivity losses of US\$310 billion in nominal terms, and US\$647 billion after adjusting for purchasing power parity.

Interpretation: Foodborne diseases causes a burden similar to that from tuberculosis, HIV and AIDS, or malaria. The high burden of both communicable and non-communicable foodborne diseases requires countries to prioritise developing strategies to improve the safety of the food supply.