

Newborn deaths decrease but account for higher share of global child deaths

The World Health Organization (WHO) and Save the Children have released the most comprehensive newborn death estimates to date and called for more action to reduce newborn mortality.

Fewer newborns are dying worldwide, but progress is too slow and Africa particularly is being left further behind. These are the findings of a new study published in the medical journal *PLoS Medicine*. The study, covering 20 years and all 193 WHO Member States, was led by researchers from WHO, Save the Children, and the London School of Hygiene and Tropical Medicine. The estimates are based on more data than ever and extensive consultations with countries. The study shows detailed trends over time and forecasts potential future progress.

Newborn deaths decreased from 4.6 million in 1990 to 3.3 million in 2009, but fell slightly faster since 2000. More investment into healthcare for women and children in the last decade when the United Nations Millennium Development Goals (MDGs) were set, contributed to more rapid progress for the survival of mothers (2.3% per year) and children under the age of 5 (2.1% per year) than for newborns (1.7% per year).

According to the new figures, newborn deaths, that is deaths in the first 4 weeks of life (neonatal period), today account for 41% of all child deaths before the age of 5. That share grew from 37% in 1990, and is likely to increase further. The first week of life is the riskiest week for newborns, and yet many countries are only just beginning post-natal care programmes to reach mothers and babies at this critical time.

Three causes account for three-quarters of neonatal deaths in the world: preterm delivery (29%), asphyxia (23%), and severe infections, such as sepsis and pneumonia (25%). Existing interventions can prevent two-thirds or more of these deaths if they reach those in need.



Almost 99% of newborn deaths occur in the developing world. The new study found that in part because of their large populations, more than half of these deaths now happen in just five large countries – India, Nigeria, Pakistan, China, and Democratic Republic of the Congo. Nigeria, the world's seventh most populous country, now ranks second in newborn deaths (behind India) up from fifth in 1990. This is due to an increase in the total number of births while the risk of newborn death has decreased only slightly.

With a reduction of 1% per year, Africa has seen the slowest progress of any region in the world. Among the 15 countries with more than 39 neonatal deaths per 1000 live births, 12 were from the WHO African Region (Angola, Burundi, Chad, Central African Republic, Democratic Republic of the Congo, Equatorial Guinea, Guinea, Guinea-Bissau, Mali, Mauritania, Mozambique, and Sierra Leone). At the current rate of progress it would take the African continent more than 150 years to reach US or UK newborn survival levels.

'This study shows in stark terms that where babies are born dramatically influences their chances of survival, and that especially in Africa far too many mothers experience the heartbreak of losing their baby,' said co-author Dr Joy Lawn of Save the Children's Saving Newborn Lives programme. 'Millions of babies should not be dying when there are proven, cost-effective interventions to prevent the leading causes of newborn death.'

Tobacco kills up to half of its users

Tobacco use is one of the most important risk factors contributing to non-communicable diseases (NCDs). It kills nearly 6 million people yearly (5 million users and ex-users and over 600 000 non-smokers exposed to second-hand smoke). Curbing tobacco use featured prominently at the UN High-level meeting on NCDs in New York this September.

WHO launches the eLibrary of Evidence for Nutrition Actions

The World Health Organization has launched the electronic Library of Evidence for Nutrition Actions – or eLENA – in Colombo, Sri Lanka. As part of a global effort to improve maternal, young child, and infant health, e-LENA brings together the latest evidence-informed WHO guidelines, commentaries, and evidence resources on the broad topic of nutrition. The aim of this new eLibrary is to stimulate effective nutrition actions and guide programme and policy design. See <http://www.who.int/elena/en/>

Virgin founder joins effort to end HIV-related travel restrictions

The British business pioneer Sir Richard Branson has thrown his support behind a global drive to rid the world finally of the remaining discriminatory laws that keep people from visiting, or living and working in countries solely because they are HIV positive. The Joint United Nations Programme on HIV/AIDS (UNAIDS) has called for the global freedom of movement for people living with HIV.

Sir Richard Branson said, 'I applaud UNAIDS' tireless efforts to encourage countries to remove travel restrictions on people living with HIV. Everyone should have the chance to travel freely, and I welcome the opportunity to work together on such an important issue.'

UNAIDS counts 47 countries, territories and areas that continue to impose some form of restriction on the entry, stay and residence of people living with HIV based on their HIV status. At least 128 countries have no such restrictions.

AMP and WHO receive grant to strengthen health logistics

The Agence de Médecine Préventive (AMP) and the World Health Organization (WHO) have received two grants totaling US\$6 million from the Bill & Melinda Gates Foundation to provide technical support to increase the capacity and competence of health logisticians in sub-Saharan Africa.

The project, called 'LOGIVAC' will establish two regional health logistics reference centres to offer professional training and certification for logisticians. In addition, it will develop a model for an innovative logistics system to demonstrate the impact of using certified logisticians on immunisation programme performance. AMP and WHO will implement project activities in collaboration with regional public and private partners.

Strong health logistics and vaccine management are necessary to effectively deliver life-saving immunisation services. However, the logistics systems in many developing countries, particularly in sub-Saharan Africa, suffer from weak infrastructure, inadequate essential services such as transportation and information technology, and shortage

of skilled human resources. This contributes to vaccine management issues including wasted vaccine doses and supply shortages, leading to missed opportunities for vaccinating children.

As new, more expensive vaccines become available, the stakes are even higher for health logistics. Adding more vaccines to routine immunisation schedules requires the enhancement of supply chain management and operations. Health logisticians should have the know-how to ensure proper vaccine storage and transportation, guaranteeing systematic and timely vaccine delivery, and maintaining the cold chain, which keeps the vaccines at controlled temperatures.

'Strong immunisation services are essential to sustain past gains and to ensure that new, more expensive vaccines with high public health impact are properly introduced,' said Dr da Silva, executive director of AMP. 'A key success factor is having highly trained and certified health logisticians who are capable of making sure that vaccines are delivered to the right place at the right time and in the right conditions.'

Micronutrient powders reduce anaemia and iron deficiency in infants in low-income countries

Adding a powder that contains several vitamins and minerals, including iron, zinc, and vitamin A, to the semi-solid foods taken by infants and children between 6 months and 2 years of age, can reduce their risk of anaemia and iron deficiency. This is the conclusion of a new Cochrane Systematic Review.

Vitamin and mineral deficiencies, particularly those of iron, vitamin A and zinc, affect more than 2 billion people worldwide. Infants and young children are highly vulnerable because they grow rapidly and often have diets low in these nutrients. Micronutrient powders are single-dose packets containing multiple vitamins and minerals in powder form that can be sprinkled onto any semi-solid food immediately before eating.

Led by Luz Maria De-Regil, a team of researchers set out to see whether using micronutrient powders could improve the health of young children. They found eight relevant trials that together involved 3748 children living in Asia, Africa, and the Caribbean, where anaemia is a public health problem. The studies lasted between 2 and 12 months and the powder formulations contained between 5 and 15 nutrients.

Overall, home fortification with the micronutrient powders reduced the risk of having anaemia by 31% and iron deficiency by 51% when compared with no intervention or placebo. The team found, however, that there was little or no evidence that this intervention has an effect on growth, survival, or overall developmental outcomes. 'We still need to know more about possible positive and adverse side-effects as only a few trials reported on this,' says De-Regil, an epidemiologist at the World Health Organization.

Mosquitoes can rapidly develop resistance to ITNs

In Senegal, around 6 million insecticide-treated nets (ITNs) have been distributed over the last 5 years. Researchers looked at one small village in the country and tracked the incidence of malaria both before and after the introduction of nets in 2008.

Within 3 weeks of their introduction the scientists found that the number of malaria attacks started to fall – incidence of the disease was found to be 13 times lower than before the nets were used.

The researchers also collected specimens of *Anopheles gambiae*, the mosquito species responsible for transmitting malaria to humans in Africa. Between 2007 and 2010 the proportion of the insects with a genetic resistance to one type of pesticide rose from 8% to 48%. By 2010 the proportion of mosquitoes resistant to Deltamethrin, the chemical recommended by WHO for bed nets, was 37%.

However, in the last 4 months of the study the researchers found that the incidence of malaria attacks returned to high levels. Among older children and adults the rate was even higher than before the introduction of the nets.

The researchers argue that the initial effectiveness of the bed nets reduced the amount of immunity that people acquire through exposure to mosquito bites. Combined with a resurgence in resistant insects, there was a rapid rebound in infection rates.

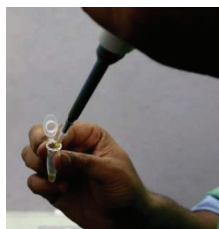
The authors are worried that their study has implications beyond Senegal, but other experts in this field say that it is impossible to draw wider conclusions. The study is published in *Lancet Infectious Diseases*.

World Suicide Prevention Day

World Suicide Prevention Day on 10 September promoted worldwide commitment and action to prevent suicides. On average, almost 3000 people commit suicide daily. For every person who completes a suicide, 20 or more may attempt to end their lives.

The sponsoring International Association for Suicide Prevention say that at the global level, awareness needs to be raised that suicide is a major preventable cause of premature death.

World body advises against blood tests for active TB



The use of currently available commercial blood (serological) tests to diagnose active tuberculosis (TB) often leads to misdiagnosis,

mistreatment, and potential harm to public health, says the World Health Organization (WHO) in a policy recommendation. WHO is urging countries to ban the inaccurate and unapproved blood tests and instead rely on accurate microbiological or molecular tests, as recommended by the Organization.

Testing for active TB disease through antibodies or antigens found in the blood is extremely difficult. Patients can have different antibody responses suggesting that they have active TB even when they do not. Antibodies may also develop against other organisms which again could wrongly indicate they have active TB. In addition, different organisms share the same antigens, making test results unreliable. These factors can result in TB disease not being identified or wrongly diagnosed.

'In the best interests of patients and caregivers in the private and public health sectors, WHO is calling for an end to the use of these serological tests to diagnose tuberculosis,' said Dr Mario Raviglione, Director of WHO Stop TB Department. 'A blood test for diagnosing active TB disease is bad practice. Test results are inconsistent, imprecise, and put patients' lives in danger.'

The policy recommendation applies to blood tests for active TB. Blood tests for inactive TB infection (also known as dormant or latent TB) are currently under review by WHO.

The new recommendation comes after 12 months of rigorous analysis of evidence by WHO and global experts. Ninety-four studies were evaluated – 67 for pulmonary tuberculosis and 27 for extrapulmonary tuberculosis. Overwhelming evidence showed that the blood tests produced an unacceptable

level of wrong results – false-positives or false-negatives – relative to tests endorsed by WHO.

The research revealed 'low sensitivity' in commercial blood tests which leads to an unacceptably high number of patients wrongly being given the 'all clear' (i.e. a false-negative when in reality they have active TB). This can result in the transmission of the disease to others or even death from untreated tuberculosis. It also revealed 'low specificity', which leads to an unacceptably high number of patients being wrongly diagnosed with TB (i.e. a false-positive when in reality they do not have active TB). Those patients may then undergo unnecessary treatment, while the real cause of their illness remains undiagnosed, which may then also result in premature death.

More than a million of these inaccurate blood tests are carried out annually to diagnose active TB, often at great financial cost to patients. Many patients pay up to US\$30 per test. There are at least 18 of these blood tests available on the market. Most of these tests are manufactured in Europe and North America, even though the blood tests are not approved by any recognised regulatory body.

'Blood tests for TB are often targeted at countries with weak regulatory mechanisms for diagnostics, where questionable marketing incentives can override the welfare of patients,' said Dr Karin Weyer, Coordinator of TB Diagnostics and Laboratory Strengthening for the WHO Stop TB Department. 'It's a multi-million dollar business centred on selling substandard tests with unreliable results.'

This is the first time WHO has issued an explicit 'negative' policy recommendation against a practice that is widely used in tuberculosis care. It underscores the Organization's determination to translate strong evidence into clear policy advice to governments.

WHO's *Commercial Serodiagnostic Tests for Diagnosis of Tuberculosis – Policy Statement* and other related documents are available at: http://www.who.int/tb/laboratory/policy_statements/en.

Mutation of H5N1 virus could revive bird flu threat, says UN

The UN's Food and Agriculture Organisation (FAO) has warned of a possible resurgence of bird flu and said a mutant strain of the H5N1 virus is spreading in Asia and elsewhere.

'The general departure from the progressive decline observed in 2004–2008 could mean that there will be a flareup of H5N1 this fall and winter,' the FAO's chief veterinary officer, Juan Lubroth, said in a statement. 'Wild birds may introduce the virus, but people's actions in poultry production and marketing spread it. Preparedness and surveillance remain essential ... no one can let their guard down with H5N1,' he added.

Warning over global cancer levels

The number of new cancer cases has increased by 20% in under a decade and now stands at 12 million a year, according to the World Cancer Research Fund. It warns that nearly a quarter of those cases are 'preventable'.

The figures have been released ahead of a United Nations meeting on diseases including cancer.

The WCRF said there was a 'once in a generation' opportunity to reverse the trend. It calculated that 2.8 million new cancers each year are linked to diet, exercise, and obesity. The figure is expected to rise 'dramatically' over the next decade, the organisation warned.

Professor Martin Wiseman, medical and scientific adviser for WCRF, said, 'The truth is the number of cases around the world is going up partly because we are an ageing population, but also because of changes in lifestyle. As countries become more urbanised, they become more prone to the Western diseases that we are used to seeing. Not just cancers – coronary heart disease, diabetes, obesity, and lung diseases.'

He said 'Many people are still unaware that risk factors such as alcohol and obesity affect cancer risk, while from television advertising to the pricing of food, our society works in a way that discourages people from adopting healthy habits.'

Global effort to stop polio transmission by 2012 'at risk' says report

The continued transmission of polio is being called a 'global health emergency,' and plans to stop the spread of the disease by the end of 2012 are still 'at risk', according to a new report released by a leading group of international health experts.

In its latest quarterly assessment of polio progress worldwide, the Independent Monitoring Board (IMB) of the Global Polio Eradication Initiative (GPEI) said that progress against polio is being hampered by a US\$590 million funding gap, by weak political leadership in some countries, and by persistent problems in the quality of key polio vaccination campaigns.

While worldwide cases of polio have been brought down by 99% since the GPEI was founded in 1988 (from 350 000 in 1988 to around 1000 cases in 2010) the disease will resurge if it is not completely eradicated. 'Tackling the remaining 1% of polio is the greatest challenge yet, but it can be achieved if the funding and political commitment is there,' said Sir Liam Donaldson, Chair of the Independent Monitoring Board. 'Achieving this goal would be an immense triumph, making polio the second disease ever to be wiped from the planet. Failure would be a global health catastrophe.'

The report outlines the latest news from the frontlines of the fight against polio – both in the four endemic countries – Afghanistan, India, Nigeria, and Pakistan – and in the countries where polio transmission was halted but subsequently resumed. Nigeria made good progress in 2010, cutting polio cases by 95%. However, the report warns

that political commitment waned during this year's election campaigns, with the result that there were five times as many cases in the first half of 2011 as there were in 2010. Northern Nigeria is singled out as of high strategic importance because the virus can easily spread from there to surrounding countries with weaker immunisation coverage. The state of Kano is described as 'A smouldering risk that could yet undermine the whole eradication effort.'

Of the countries where polio transmission has resumed, two are singled out: Chad is described as being 'of great concern' with 80 cases of polio detected so far in 2011; the Democratic Republic of Congo has so far recorded 59 cases of polio in 2011. The report says: 'We are deeply concerned by the situation in DR Congo. The worrying picture revealed by vaccination and surveillance data is confirmed by observations of widespread dysfunction on the ground.'

The monitoring report contains a series of recommendations for improving the quality of current polio vaccination campaigns. These include: twinning of polio-affected and polio-free countries to enable a transfer of skills and technical expertise; introducing a new team check-list to achieve consistency across vaccination campaigns; inclusion of more social data in case reports to understand why certain groups of children are being infected more than others; and clearer timelines for each country's path to eradication.

The IMB's report calls on rich country donors to close the funding gap and 'finish the job' on polio.

NDM-1 superbug enzyme's 'photofit' taken

The structure of the protein which stops some of medicine's most powerful antibiotics working has been determined by researchers in China, Canada, and the UK.

Bacteria which make New Delhi metallo beta lactamase (NDM-1) are of growing concern to health professionals. The protein has larger 'jaws' which allow it to attack more antibiotics than

other enzymes.

It is hoped drug companies will be able to use the chemical structure to design new drugs.

Prof Sharon Peacock, a member of the Medical Research Council Infections and Immunity Board, said, 'Identifying the structure of NDM-1 is a crucial step towards ensuring that drug development is based on a sound understanding of the mechanisms of bacterial resistance to antibiotics.'

Soil bacterium helps kill cancers

A bacterium found in soil is showing promise as a way of delivering cancer drugs into tumours. Spores of the *Clostridium sporogenes* bacterium can grow within tumours because there is no oxygen.

UK and Dutch scientists have been able to genetically engineer an enzyme into the bacteria to activate a cancer drug. Experts said it would be some time before the potential benefits of the work – presented to the Society of Microbiology – were known. The work is being presented to the society's autumn conference at the UK's University of York.

New psychological first aid guide to strengthen humanitarian relief

Humanitarian emergencies – such as earthquakes, extreme drought, or war – not only affect people's physical health but also their psychological and social health and well-being.

On World Humanitarian Day, celebrated on 19 August, WHO, the War Trauma Foundation (WTF), and World Vision International (WVI) announce the release of *Psychological first aid: guide for fieldworkers*.

'In the last 5 years the psychological damage left in the wake of tsunamis, earthquakes, droughts, and conflicts has proven as devastating as the physical damage,' says Dr Bruce Aylward, WHO Assistant Director-General for Polio, Emergencies, and Country Collaboration. 'Recognising that we can do more and do better for the mental health of disaster-affected populations, WHO and partners have developed this guide to ensure that standards and best practices are consistently applied in humanitarian settings.'

Psychological first aid covers both social and psychological support and involves the provision of humane, supportive, and practical help to people suffering from serious crisis events.

The guide – which can be taught to humanitarian workers within 1 day – was developed in order to have widely agreed-upon psychological first aid materials for use in low- and middle-income countries. It is available in different languages.