News from here and there

BMJ awards 2020 for outstanding individuals and best research paper

A research paper in *The Lancet* (Knight M, Chiocchia V, Partlett C, Rivero-Arias O, Hua X, Hinshaw K, *et al*.; ANODE collaborative group. Prophylactic antibiotics in the prevention of infection after operative vaginal delivery (ANODE): A multicentre randomised controlled trial. *Lancet* 2019 Jun 15;**393**(10189):2395–403. doi: 10.1016/S0140-6736(19)30773-1. Epub 2019 May 13. Erratum in: *Lancet* 2019 Jun 15;**393**(10189): 2394) has been awarded the *BMJ*'s best research paper of the year 2020.

The researchers showed that use of a single dose of antibiotics was effective in reducing infection in females after assisted vaginal delivery. For the study, termed ANODE (prophylactic ANtibiotics for the prevention of infection following Operative DElivery) the team studied about 3400 females each in two groups; an intravenous antibiotic was given to females in one group while placebo was offered to the other group. At 6 weeks after delivery, perineal pain and infection as well as wound breakdown was significantly less in the group that received the antibiotic. The study was conducted between March 2016 and June 2018 and involved 27 obstetric units in the UK.

BMJ's 'Outstanding Contribution to Health Award' was given to Dr David Pencheon, who was the founder Director of the Sustainable Development Unit (SDU) for NHS England and Public Health England from 2007 to 2017. Dr Pencheon is currently Honorary Professor and an Associate, Health and Sustainable Development**,** University of Exeter, UK as well as an Advisory Group member and associate with the Wellcome Centre for Cultures and Environments of Health. He received the award for his contribution to the field of climate change and sustainability. During his tenure, the SDU determined how to calculate the carbon footprint of different aspects of healthcare in England. This has resulted in institutions making changes in their work pattern so as to reduce emissions.

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National Digital Health Mission launched in India on Independence Day, 2020

The National Digital Health Mission (NDHM), a project of the Government of India, aims to provide a medical identity document to all Indians. This ambitious project was unveiled on India's 74th Independence day, i.e. 15 August 2020 by Prime Minister Narendra Modi. This programme is linked to the National Health Policy (NHP) 2017 and the NITI Aayog proposal, 2018 to create a centralized mechanism to identify every Indian with a unique health identity. A committee in July 2019, headed by the former chairman of the Unique Identification Authority of India (UIDAI), J. Satyanarayan, released the National Digital Health Blueprint that proposed the establishment of a specialized organization to facilitate the evolution of the National Digital Health Ecosystem.

The NDHM is implemented by the National Health Authority (NHA) under the Ministry of Health and Family Welfare (MoHFW), which is also the implementing agency for Ayushman Bharat. The NDHM platform will be accessible in the form of an app and a website. The NHA is entrusted with the responsibility of planning, designing strategy, building technological infrastructure and implementation of the NDHM. The NDHM involves a major collective effort between many departments. This completely technology-based initiative is expected to revolutionize the health sector.

The NDHM will be launched with primary digital systems in the first phase—this phase aims to provide Health ID, Digi Doctor, Health Facility Registry, Personal Health Records and Electronic Medical Records. Every Indian will get an ID card containing all relevant information about his/her medical conditions. This card can be used to access health services and medicines all over the country. The ID card will carry confidential medical data, such as prescriptions, diagnostic reports and discharge summaries digitally. Currently, the Health ID is announced in Andaman and Nicobar Islands, Chandigarh, Dadra and Nagar Haveli and Daman and Diu, Ladakh, Lakshadweep and Puducherry.

Some key features of NHP 2017 are:

1. Care for major non-communicable diseases, mental health, geriatric healthcare, palliative care and rehabilitative care services.
2. Health and wellness centres.
3. The policy proposes free drugs, free diagnostics and free emergency and essential health care services in all public hospitals in a bid to provide access and financial protection.
4. A three-dimensional integration of AYUSH systems with cross referrals, co-location and integrative practices across systems of medicines will be applicable.
5. A proposed effective grievance redressal mechanism.
6. Proposal to raise the health budget to 2.5% of the gross dometic product by 2025, which in the current financial year 2020–21 is merely 0.34%.

The targets are mainly to improve upon the present health indicators such as life expectancy (from 67.5 years to 70 years), mortality of children <5 years of age from 34 in 2019 to 23 by 2025 and also to allocate a major proportion of resources to primary care with 2 beds/1000 population and to achieve the Global HIV 2020 target. The target is 90-90-90 where by 2020, 90% of all people living with HIV will know their HIV status, 90% of all people with diagnosed HIV infection will receive sustained antiretroviral therapy, and 90% of all people receiving antiretroviral therapy will have viral suppression.

Access to medical data will be separate for each patient visit. Doctors will be able to access it for a limited period of time, so as to ensure data protection and privacy.

The point of concern before launching and using this policy is that the NDHM has not declared health as a 'right' till date.

Data security is a prime responsibility. All technical and scientific issues as well as implementation issues should be sorted out before launching the mission nationwide. The NDHM should blend with other pre-existing health schemes such as the Ayushman Bharat Yojana and also IT-enabled schemes such as Reproductive Child Health Care and NIKSHAY (National Tuberculosis Elimination Programme), etc.

The NDHM will permit access to health services remotely through tele-consultation and e-pharmacies. This is a particularly welcome move in times of the Covid-19 pandemic and for future emergencies. The NDHM is a step towards safe and secure health facility for all citizens of India.

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Forecast of decline up to 1 billion in world population by 2100

A study published in *The Lancet* on 14 July 2020 (Vollset SE, Goren E, Yuan CW, Cao J, Smith AE, Hsiao T, *et al*. Fertility, mortality, migration, and population scenarios for 195 countries and territories from 2017 to 2100: A forecasting analysis for the Global Burden of Disease Study. *Lancet* 2020;**396:**1285–306. doi: 10.1016/S0140-6736(20)30677-2. Epub 14 Jul 2020) forecasts that from the current world population of 7.8 billion, there will be a peak of around 9.7 billion by 2064, and a likely decline in the global population to around 8.8 billion by 2100. The reasons include improved access to modern contraceptives and education of females, leading to decline in fertility rates.

Data from the Global Burden of Disease Study 2017 were used to forecast prospective national, regional and global populations. The study was conducted by researchers from the Institute for Health Metrics and Evaluation (IHE) at the University of Washington's School of Medicine, Seattle, USA. It was partly funded by the Bill and Melinda Gates Foundation.

The study has estimated that by 2100, 183 of the current 195 countries will have total fertility rates (TFR) below the replacement level of 2.1 births per female. The TFR is defined as the total number of children likely to be born to every female if she were to live to the end of her child-bearing years and give birth to children in alignment with current age-specific fertility rates. A TFR of 2.1 indicates a broadly stable population, with the assumption that there is no net migration and mortality is unaffected.

The TFR has been steadily declining, from 2.37 in 2017 to 2.1 in 2020, and is predicted to decline even further to 1.66 in 2100. In some countries, the TFR will be even lower. For example, it is predicted to be around 1.2 in Italy and Spain, and 1.17 in Poland. Much of this decline is forecast for high-fertility countries. In sub-Saharan Africa, the TFR is likely to fall to 1.7 in 2100 from 4.6 in 2017. Niger, where the TFR was 6.91 in 2017, it will dramatically drop to around 1.8 by 2100.

The study has also predicted a major change in the global age structure. Currently, around 26% (or 2.28 billion) of the world's population is under the age of 15 years, and around 9% (or 702 million) is over the age of 65 years. In 2100, the predicted numbers are 2.37 billion (26.9%) individuals over the age of 65 years, and 1.7 billion (19.3%) under the age of 20 years.

While the global population is expected to drop as per the study, the population of sub-Saharan Africa will likely triple from 1.03 billion (2017) to 3.07 billion (2100). This is due to declining death rates and increasing numbers of females in the reproductive age. The populations of North Africa and the Middle East are also predicted to increase compared to the current numbers.

Asia, central and eastern European countries will be the worst hit with huge declines in their populations. Japan, Thailand, South Korea, Spain, Italy and Portugal are among 23 countries and territories where the population is likely to reduce by more than half. In 34 other countries, including China, the population decline will range from 25% to 50%.

The study has some good news for India. India is likely to be the only major Asian country to protect its working-age population over the course of this century. Also, its gross domestic product standing will improve from the seventh to the third position.

The researchers have noted some key limitations in their study. Predictions are limited by the quality and quantity of previously collected data. Past trends may not always foretell the future, and certain factors not included in the model may change the pace of mortality, fertility and migration. An example is the current Covid-19 pandemic, which has caused over half a million deaths till date. Such events can drastically affect forecasted trends.

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