



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Friday 20190628

Top Indian hospitals understaffed

Top Indian hospitals understaffed, overworked (Hindustan Times: 20190628)

<http://paper.hindustantimes.com/epaper/viewer.aspx>

Rangoli Agrawal, howindialives.com letters@hindustantimes.com ■ (howindialives.com is a database and search engine for public data)HTC

The death of more than 150 children due to acute encephalitis syndrome (AES) in Bihar has generated a lot of debate on the poor state of health services in India's states. Not all of India's health care institutions are substandard though.

Even in the public sector, there are hospitals such as the All India Institute of Medical Sciences, New Delhi (AIIMSDelhi) that can offer cuttingedge treatment for various kinds of illnesses. However, even hospitals such as AIIMSDelhi are working under a severe squeeze of both personnel and resources compared to their peers in advanced countries.

An analysis of two reputed hospitals in India, AIIMS-Delhi and Christian Medical College Vellore (CMC-Vellore), with two one hospital in the US (Cedars-Sinai Medical Center, Los Angeles) and one in UK (St. Thomas's Hospital) shows that the Indian hospitals tend to a lot more patients at a fraction of the cost than the ones abroad.

Both AIIMS-Delhi and CMCVellore treated more than two million outpatients in 2017-18, the latest year for which data is available.

The average number of outpatients treated by these two hospitals was twice the average outpatients treated in CedarsSinai and St. Thomas's (let's give the numbers). For inpatients, AIIMS-Delhi and CMCVellore treated 1.6 times the number for the two foreign hospitals (again, give the numbers). If one were to adjust inpatient treatments for number of beds, AIIMS-Delhi is far ahead of all three hospitals. It treated almost 100 patients a year per bed, which means that an average patient spent less than four days in the hospital. The extraordinarily high number of patients per bed in AIIMS also explains why it is so difficult to get admitted to the hospital. How do we know this – is there a waiting time?

See Chart 1: Outpatients per day and inpatients per bed in each hospital

A lot of the patients who come to hospitals such as AIIMS Delhi and CMC-Vellore are from far-off places. Forty-six per cent of all inpatient admissions at CMC-Vellore were from outside Tamil Nadu in 2017-18. Fiftythree per cent of all inpatient admissions at AIIMS-Delhi in 2017-18 were from outside Delhi – mostly from Uttar Pradesh, Bihar, Haryana and Rajasthan in 2017-18. At the cancer department, this number was 68%.

While AIIMS-Delhi handles a lot more patients than the other three hospitals, it has been facing a significant shortage of doctors at the faculty level.

According to the 2017-18 annual report, the existing faculty (doctor) strength of 689 in AIIMS was 19% less than the sanctioned number. Between 2015-16 and 2017-18, AIIMS Delhi suffered a decline of 15 in the number of professor-rank doctors.

How do less than 700 doctors manage more than two million outpatients and 100,000-plus inpatients? Approximately 2,000 trainee doctors – junior residents who have completed their MBBS and senior residents who have completed their Master’s degrees – take a large share of the burden. “About 90% of the work is done by the residents, especially from 5pm till next morning 9am until the faculty arrives. There is a huge work pressure,” said Dr Amarinder Singh Malhi, president, Resident Doctors Association, AIIMS-Delhi?. “Much of the workload at AIIMS-Delhi is handled by junior and senior residents, who are allowed to spend a maximum of three years after completing their Master’s degree,” said a doctor who is currently working at CMC-Vellore, but did his post-graduate degree and senior residency at AIIMS-Delhi for six years.

To be sure, AIIMS-Delhi is not the only hospital which uses the services of resident doctors. JN Medical College at Aligarh Muslim University has about 300 consultants (senior doctors), and about 850 resident doctors, said Mohd Talha, president of its Resident Doctor Association. Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry had 310 senior residents and 550 junior residents as on March 2018, as per the latest annual report available.

Hospitals such as AIIMS Delhi and CMC-Vellore also handle a lot more students at subsidised rates than their western counterparts.

The most important fact is that Indian hospitals such as AIIMS-Delhi and CMC-Vellore tend to a lot more patients and students than their western peers at a fraction of the money spent by the latter.

A comparison of purchasing power parity (PPP) adjusted expenses per patient and per bed proves this point. A PPP comparison is better than simple conversion of dollar and pound sterling to rupees as different currencies have different purchasing powers in their countries.

See Chart 2: per patient/bed expense for four hospitals in PPP terms.

These numbers suggest that even top-notch medical institutions in India might be working under a much bigger squeeze than their international counterparts. The situation in the larger health care system in the country is, of course, much worse.

Diphtheria

Why diphtheria is a concern: long-time vaccine, yet rising recent numbers (The Indian Express: 20190628)

<https://indianexpress.com/article/explained/why-diphtheria-is-a-concern-long-time-vaccine-yet-rising-recent-numbers-5803702/>

Diphtheria is an infectious disease caused by *Corynebacterium diphtheria*, a bacterium. The primary infection is in the throat and upper airways.



In 2018, Delhi witnessed a diphtheria outbreak. A total of 25 children died in September, followed by 22 in October and 12 in November.

The diphtheria vaccine is among the oldest vaccines in India's Universal Immunisation Programme, yet cases in the country have been going up over the last few years after showing a remarkable reduction in 2015. That is why the season's first death due to diphtheria in Delhi has caused an alarm, with doctors assessing their preparedness.

A look at diphtheria, the vaccination programme and the concerns:

The disease

Diphtheria is an infectious disease caused by *Corynebacterium diphtheria*, a bacterium. The primary infection is in the throat and upper airways.

According to the National Health Portal, one type of diphtheria affects the throat and sometimes the tonsils. Another type causes ulcers on the skin; these are more common in the tropics (places where all 12 months have mean temperatures of at least 18 °C). Diphtheria particularly affects children aged 1 to 5 years. In temperate climates diphtheria tends to occur during the colder months.

Diphtheria is fatal in only 5-10% cases. That is why as the monsoon approaches and temperatures start to come down, the season's first death in Delhi is being seen as a warning sign.

In 2018, Delhi witnessed a diphtheria outbreak. A total of 25 children died in September, followed by 22 in October and 12 in November.

Periodic outbreaks of the disease have been reported in India. Integrated Disease Surveillance Programme (IDSP), National Centre for Disease Control (NCDC), Delhi, reported as many as 7 outbreaks of diphtheria in India during 2014.

The vaccine

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In 1978, India launched the Expanded Programme on Immunisation. The first three vaccines in the programme were BCG (against TB), DPT (diphtheria, pertussis, tetanus) and cholera. In 1985, the programme was converted to the Universal Immunisation Programme (UIP). DPT continues to be a part of UIP, which now includes 12 vaccines. It is now incorporated as a pentavalent vaccine, (containing vaccine against diphtheria, pertussis, tetanus [DPT], Hepatitis B and *Haemophilus influenzae* type B). UIP aims at giving all children born in India all these 12 vaccines free. As per data from the National Family Health Survey 4, the coverage of diphtheria vaccine is 78.4%.

The vintage and coverage of the diphtheria vaccine is also why the government, after the last outbreak in Delhi, decided to commission a study on vaccine hesitancy and ways to deal with it. The study is being done by the Immunisation Technical Support Unit under the ministry of health and family welfare will conduct the study in association with GAVI — an international organisation supported by the Bill and Melinda Gates Foundation working on ensuring vaccine access.

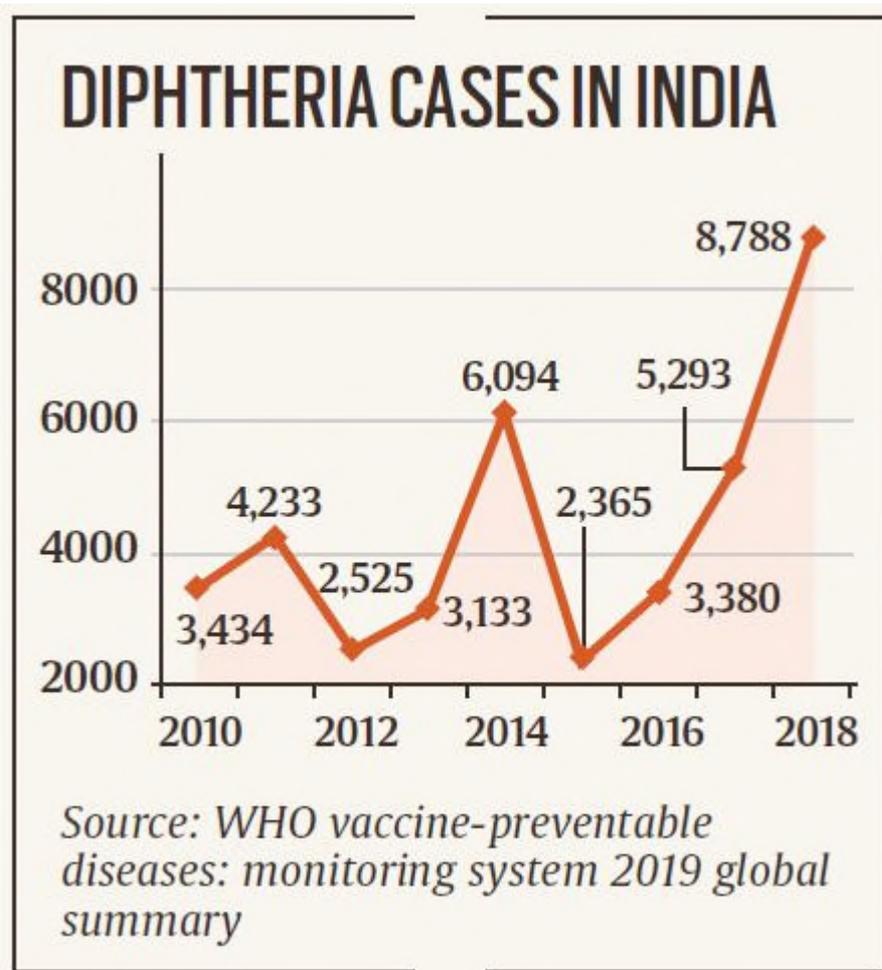
Vaccine hesitancy is a growing problem the world over. The US too has been grappling with it as cases of a polio like illness some time back created panic. States like Minnesota have seen rising vaccine hesitancy, especially among immigrant populations, after Andrew Wakefield, a British doctor who was stripped of his licence to practice and became one of the leading voices against vaccines, personally paid a visit to the state.

The rising trend

Cases have been going up in the last few years. In 2015, as per World Health Organization data, India reported 2,365 cases. This was a steep drop from the 6,094 cases reported the previous year. However, in 2016, 2017 and 2018, the numbers rose successively to 3,380, 5,293 and 8,788.

As per data from the Central Bureau of Health Intelligence, during 2005-2014, India reported 41,672 cases of diphtheria (average 4,167 per year) with 897 deaths (case fatality ratio 2.2%). Ten of the states (Andhra Pradesh, Assam, Delhi, Gujarat, Haryana, Karnataka, Nagaland, Maharashtra, Rajasthan, and West Bengal) accounted for 84% of the cases reported across the country.

In 2017, Manoj Murhekar of National Institute of Epidemiology, Chennai, wrote in the *American Journal of Tropical Medicine and Hygiene*: "...comparison of the published studies within a state over a period of time suggested that in eight states, majority of the cases were among school-going children and adolescents, whereas in states of Delhi and Uttar Pradesh, most of the cases were among under-five children. Occurrence of diphtheria cases in under-five children reflects low coverage of primary diphtheria vaccination. During the pre-vaccination era globally as well as during eighties in India, high proportion of cases were under-fives. Higher median age of diphtheria cases in most of the studies in India, indicates susceptibility of school-going and adolescent children to diphtheria either on account of low coverage of diphtheria vaccines as well as declining immunity acquired by vaccination or naturally."



National Institute of Public Finance and Policy (NIPFP)

The 6.5% warning (The Indian Express: 20190628)

<https://indianexpress.com/article/opinion/columns/the-6-5-warning-gdp-forecast-investment-in-indian-economy-5019556/>

Almost all steps in the strategy to revive investment are likely to be slow and painful. There are no shortcuts

Ila Patnaik is a consulting editor for 'The Indian Express'. Currently she is RBI Chair Professor, National Institute of Public Finance and Policy (NIPFP) and non-resident senior associate at Carnegie Endowment for International Peace. In 2006, Ila Patnaik joined the NIPFP as Professor. Her research includes issues related to capital flows, business cycles, the financial sector and the study of Indian firms as India opens up its capital account. Before joining NIPFP, Ila Patnaik served as Senior Economist, National Council of Applied Economic Research (NCAER), New Delhi between 1996-2002, and as Senior Fellow, Indian Council for Research

in International Economic Relations (ICRIER) between 2002-2004. Ila Patnaik was a visiting scholar at the IMF between January 2003, in October 2010 and in February 2013. In September 2013, Ila joined Carnegie Endowment for International Peace, a think tank in Washington DC as a non-resident fellow. She has several publications in refereed journals and volumes. Ila Patnaik earned a Ph.D. in Economics from the University of Surrey, Guildford, UK in 1996. She has served on a number of committees on financial policy and regulation including the Ministry of Finance, Working Group on Foreign Investment, 2009-10, the Ministry of Finance, Internal Working Group on Internal Debt Management, 2008 and the RBI Working Group on Economic Indicators, 2001-2002.

GDP, India's GDP, GDP forecast, investment in indian economy, Investment, India economy, Indian express column

Investment in the Indian economy has declined from 34.3 per cent of the GDP in 2011-12 to 27 per cent of the GDP in 2016-17.

The GDP forecast for FY 2018 of 6.5 per cent does not come as a surprise. The introduction of a Goods and Services Tax, even in its cleanest and simplest form, would have inevitably led to disruption in any economy. In India's case, multiple rates and a complex structure have made compliance cumbersome and created gaps in the supply chains. As the government simplifies the GST regime in response to the difficulties being faced on the ground, this problem will likely get solved. The bigger challenges for the economy are the problems that have just begun to be solved.

The central puzzle is the decline in investment. Investment did not start declining immediately after the global financial crisis in 2008, but with a lag. For a couple of years, the economy was held up by expansionary fiscal and monetary policy, and the momentum of the previous years. But since 2012, the demand shock seems to have caught up with us. Investment in the Indian economy has declined from 34.3 per cent of the GDP in 2011-12 to 27 per cent of the GDP in 2016-17. The first advance estimates on national income show that investment as a per cent to GDP has further fallen to 26.4 per cent in 2017-18.

During these years, a number of solutions have been tried to revive investment, but with limited effect. First, the decline was understood to be a consequence of the policy paralysis under UPA 2. A large and increasing number of stalled projects was seen to be the reason for the slowdown in investment. There was consequently an attempt to address this issue by reviving stalled projects. Even though the number of stalled projects was reduced with active government intervention and inter-ministerial coordination, the difficulties of private investment did not go away. Stalled projects were perhaps an outcome of underlying problems and not the cause. Therefore, addressing them did not raise the growth of private investment. The outcome to watch for tracking investment is projects under implementation. These started declining in 2011 and have still not picked up after six years.

Next, it was felt that private investment could be increased by raising public investment. Even though the government's ability to raise capital expenditure was limited, there was expected to be a crowding-in effect, and the increase in public investment was expected to lead to an increase in private investment. This strategy had limited effect. Public investment increased but at a much slower pace than expected. The government's ability to write good contracts and give out projects was limited by bureaucratic hurdles, government contracting systems and procurement rules.

Meanwhile, bank financing had also run into trouble. Banks had lent to companies who were no longer returning their loans or paying interest. Corporate debt restructuring, that gave borrowers additional time to pay back after the crisis, had not helped. Bank money was stuck and they could no longer lend. Credit growth had slowed down. The way out was sought in going after the bad guys or the "wilful defaulters". The others were to be given a longer rope. This strategy did not get money back to banks.

First, it was very hard to identify the bad guys who had run away with the money. Even when the Vijay Mallyas were identified, the banking system did not get the money back and bank lending did not pick up. The good guys who were given time to return the money kept pushing repayment dates further, and they were given new mechanisms to keep kicking the can down the road. Banks failed to recognise poorly performing assets as non-performing and the regulator was lax. The net result was pretty much a bankrupt banking system stuck with bankrupt companies.

The logjam can no longer be ignored. The Bankruptcy Code and the Financial Resolution and Deposit Insurance Bill are a strategy for addressing this problem. They are critical elements of trying to untangle the mess we are in and to address the huge problems being faced today in the banking and corporate sector that have brought investment to a sharp decline. These are not popular measures. Nor are they quick-fixes. The 12 cases that the RBI has sent to the bankruptcy process could lead to haircuts and losses that cause a number of banks to become unable to meet their capital adequacy requirements in the coming quarter. To prevent this from happening, Rs 2.11 lakh crore is being put into bank recapitalisation. This money could well have been spent on infrastructure or public investment. But until a better plan is ready, the immediate need to allow existing banks to function is the first step.

However, looking forward, as bankrupt companies and bad loans will be resolved by the bankruptcy process, bank losses will rise and putting budgetary resources into loss-making public sector banks will become increasingly infeasible. The creation of a Resolution Corporation will allow banks to be sold to other buyers in an orderly way. The FRDI bill is currently being examined by a Joint Parliamentary Committee and is likely to be passed after taking into account the fears and concerns.

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Another critical requirement for investment growth is the availability of non-bank finance. There has been discussion about a corporate bond market that could provide funds to industry, particularly big industry. Yet, no country has been able to develop a liquid and well-functioning

corporate bond market without a risk-free benchmark rate provided by a government bond market. The creation of a well-functioning government bond market with a public debt management agency and integration with equity markets was proposed in the March 2015 Budget. This proposal was rolled back to give the RBI time to work with the Ministry of Finance on a transition plan. As a critical element of facilitating finance for investment, this work needs to be prioritised.

Almost all the steps in the strategy to revive investment are likely to be slow and painful. A sustained pick-up in investment and growth can be expected only once these essential elements are in place.

Groundwater levels down

Groundwater levels down: Govt (Hindustan Times: 20190628)

<http://paper.hindustantimes.com/epaper/viewer.aspx>

GOVT DATA Tamil Nadu has the highest number of blocks in the over-exploited category due to groundwater extraction

From page 1 NEW DELHI: Tamil Nadu has the highest number of blocks in the over-exploited category – 358 -due to groundwater extraction, according to data released by Rattan Lal Kataria, minister of state for Jal Shakti, in the Lok Sabha on Thursday. About 52% wells being monitored in the country are recording declining groundwater levels, he said.

Out of 6,584 blocks assessed in the country, 1,034 are in the overexploited category, 253 in the critical category, 681 in the semi-critical category, 96 in the saline category, and 4,520 in the safe category. Kataria was answering a question seeking details of the districts or blocks identified and marked as dark zones by the Central Ground Water Board (CGWB), particularly in Aurangabad district of Maharashtra.

“Groundwater levels in various parts of the country are declining because of continuous withdrawal due to reasons such as increased demand for fresh water for various uses, vagaries of rainfall, increased population, industrialization and urbanization...” Kataria said.

The CGWB carries out groundwater monitoring four times a year across the country. To assess groundwater-level trends on a long-term basis, pre-monsoon groundwater data for 2018 has been compared with the decadal average (2008 to 2017).

“Analysis of the data indicates decline in groundwater level in about 52% of the wells being monitored,” Kataria said.

In Maharashtra, out of a total of 353 talukas or blocks, nine have been categorized as over-exploited. But Tamil Nadu has the highest number of talukas in the over-exploited category (358), followed by Rajasthan (164), Uttar Pradesh (113)and Punjab (105).

However, Tamil Nadu has a very large number of blocks that have been assessed, while in the rest of the states, fewer blocks have been assessed but a relatively large number has been f

found to be in the over-exploited category. In reply to another question on groundwater levels, Kataria said out of 14,243 wells analysed in the country, 52% or 7,412 are showing a declining trend while 6,786 are showing a rising trend. The categorization of blocks was conducted in 2013 but comparative data is being shared only now, while the trend analysis was done by CGWB in 2018. The comparative data is relevant because Tamil Nadu is experiencing one of its worst water crises in years. The state repealed the Tamil Nadu Groundwater (Development and Management) Act, 2003 -- meant to ration and regulate groundwater extraction -- in 2013 on protests from farmers. It was never replaced by another law.

“It was not the right move. Groundwater extraction is extremely high in rural areas. The crops we grow are extremely water-intensive like sugarcane and paddy. Repealing the act may have aggravated the problem,” said retired IAS officer Santha Sheela Nair, the municipal administration and water supply (MAWS) secretary in 2003 who was instrumental in making rainwater harvesting mandatory in Tamil Nadu.

Water ((The Asian Age: 20190628)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=13274227>

A world without water: Scary future lies ahead



Patralekha
Chatterjee

Dev 360

In his 2015 sci-fi thriller, *The Water Knife*, set in Phoenix, Arizona, sometime in the near, dystopian future, novelist Paolo Bacigalupi talks about places that are catastrophically water-starved, where suburbs have morphed into ghost towns and where people are fleeing drought. A riveting character in the book called Angel is a “water knife”, tasked to infiltrate and sabotage the water supplies of competing states.

I read excerpts of the book. It is racy, graphic, and terrifying, and not in the realm of the implausible anymore.

We are living in water-stressed times; there are water-haves and a rising tide of water have-nots. A friend who lives in Gurgaon recently tweeted that in upscale condominiums in his city, there is free, unmetered, unlimited water for residents and one can actually leave a tap running and go off for a week with no charge and minimal consequences.

Meanwhile, the residents of Chennai, India’s sixth largest city, are living through horrific times, though it rained a little earlier this week. Chennai has basically almost run out of water

around water tankers in searing heat; there have been reports of scuffles over water. Many of Chennai’s hotels are rationing water for guests, and some private companies have reportedly asked their staff to work from home.

This week, the state government has announced that a train will bring water to Chennai from Jolarpettai in Vellore district, more than 200 km, away at a huge cost. The Opposition DMK leadership is against the idea. In short, more troubles lie ahead.

Chennai makes the headlines because it is a metropolitan city. But it is by no means the only place suffering acute water stress. Nearly half the country is grappling with drought-like conditions, and this has been particularly bad this year in western and southern India because of the below-average rainfall.

The question that interests me most about Chennai is how did it get to this sorry state?

Tamil Nadu was perhaps the first state in India to make rainwater harvesting (RWH) mandatory for all buildings in 2003. Chennai has more than eight lakh RWH structures,

harvesting structures in Chennai are also inefficient.

If Chennai and so many other cities are facing a water crisis today, one big reason is that neither policymakers nor many people living in these places truly realise the horrors of running out of water. If it starts raining anytime soon, people will forget their recent sufferings. That’s why the inefficiencies in the water sector remain, and rain-water storage and reuse and treatment of grey-water are not given the importance that they deserve.

Here is one scandalous statistic about water losses. Lack of proper maintenance of infrastructure causes losses of almost 40 per cent of piped water in urban India.

Chennai is currently in the news, but the big picture regarding water in India is grim. The Niti Aayog, the government’s think tank, acknowledges that nearly 600 million people in the country face high-to extreme water stress. There is a deepening national groundwater crisis, with 54 per cent of wells declining in level due to unsustainable withdrawals for irrigation.

The Narendra Modi government’s new *Jal Shakti* (water) ministry has announced a grand plan to provide piped water connections to every household in India by 2024.

But the key question remains — what will happen if there is no

among the lowest in the world. Our ancestors used to capture far more. But those traditional methods have been neglected to the point where most are in ruins. We also don’t use our wastewater well.

There is much talk about security. It is time to realise that water is a security issue. Millions of Indians are not water-secure. Fights are breaking out over water. In Madhya Pradesh, the state government has reportedly asked the police in all its 52 districts to guard water sources.

An existential threat hovers over many prosperous pockets of India. A drought is a huge part of the problem. The situation is getting steadily worse with unregulated extraction of groundwater, which is depleting underground aquifers. Take Bengaluru. Whoever has money drills a borewell to tap groundwater in the newer suburban areas where tech companies are clustered in the city.

A few years ago, I remember meeting a young hip technocrat who told me that “I fear the day when I will have soap all over my face and there is not a drop of water coming out of the tap”.

But I also saw a fascinating initiative called the Participatory Aquifer Mapping Project, which sought to involve Bengaluru’s residents in sharing information about borewells in their communities so that the city’s policymakers could learn what was

Pregnancy (The Asian Age: 20190628)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=13274144>

■ UVB exposure promotes production of vitamin D *'Little sunlight in pregnancy may affect kid'*

London: Too little sunlight, specifically ultraviolet B exposure, in pregnancy may lead to a higher risk of learning disabilities in child, according to a study.

The study conducted by researchers at the University of Glasgow found that there was a statistically significant relationship between lower ultraviolet B (UVB) exposure over the whole of pregnancy and the risk of learning disabilities.

The researchers looked at more than 422,500 school-age children from across Scotland and found that low UVB exposure during pregnancy was associated with the risk of learning disabilities.

"Learning disabilities can have profound life-long

▶ The researchers looked at more than 422,500 school-age children from across Scotland and found that low UVB exposure during pregnancy was associated with the risk of learning disabilities

▶ During the antenatal period, the fetus undergoes rapid development and growth, making it susceptible to environmental exposures, with the potential of long-term consequences

effects on both the affected child and their family. The importance of our study is that it suggests a possible way to prevent learning disabilities in some children," said professor Jill Pell, director of the University of Glasgow's Institute of Health.

"Clinical trials are now needed to confirm whether taking vitamin D supple-

ments during pregnancy could reduce the risk of learning disabilities," Pell said. UVB, the chief cause of skin reddening and sunburn, exposure from sunlight is linked to the production of the essential nutrient vitamin D in the body. During the antenatal period, the fetus undergoes rapid development and growth, making it suscep-

tible to environmental exposures, with the potential of long-term consequences. Maternal UVB exposure promotes the production of vitamin D, which is important for normal brain development of a fetus.

The researchers also found a stronger relationship with low UVB exposure in the first trimester, suggesting that early pregnancy may be the most vulnerable to the effects.

As a result of low levels of UVB radiation, vitamin D deficiency is common over winter months in high latitude countries such as Scotland, with Scottish residents twice as likely to be vitamin D deficient than people living in other parts of the UK, the researchers said. — PTI

Niti Aayog's health index

The fault is in the measure: Niti Aayog's health index is less helpful for state governments, than it should have been (The Times of India: 20190628)

<https://timesofindia.indiatimes.com/blogs/toi-edit-page/the-fault-is-in-the-measure-niti-aayogs-health-index-is-less-helpful-for-state-governments-than-it-should-have-been/>

On the face of it, Niti Aayog's annual or even biennial measurement of health sector performance as a feedback to both governments and the public is a welcome idea. It would be so, even if we disagree with the Niti Aayog's foundational contention for this exercise, that such scoring and ranking would "reduce disparities in the spirit of cooperative and competitive

federalism,” which in turn would bring about “a transformational change in the health of the people of India.”

Anirban

A single set of indicators used for comparison across all states is a very simplistic proposition considering the vast differences in socio economic contexts, histories and complexities across states. Further, states often complain that the mismatch between central designs and what the states need is the main problem. However, even if we were to focus on using performance-scoring for initiating a conversation between those implementing, designing, measuring, governing and financing the health sector, much could be achieved.

The question that we address therefore is whether the systems of measurement and scoring are valid and robust enough to support such a conversation, or are they hasty conclusions resting on slender questionable data and methods, which could sometimes be misleading and repressive of innovation and diversity. Many states, especially Tamil Nadu, have already expressed such concerns.

The first and most important problem is that key health outcomes are largely attributable to social determinants. Relatively health sector performance contributes to only about 30% of the improvement in the main health outcomes relating to mortality and morbidity. A good health sector performance would not be able to offset an increase in poverty, malnutrition or unemployment. Outcome indicators like low birth weight cannot even be expected to have an intervention-to-response relationship in a 1-2 year time frame, however effective the intervention. And yet this is one of the indicators used for measuring delta change over a 1-2 year period.

The scoring for this index is done using 23 indicators with different weightages. Key health outcomes are measured by 5 indicators and contribute to about 46% of the score. Intermediate health outcomes contribute to 5 indicators and 23% of the score. Governance and data integrity contribute 3 indicators and account for 12% of the score. Key inputs and process indicators have 10 indicators and contribute to 18.5% of the score.

Of the 5 “key health outcomes” measured, four are based on a robust data source – the sample registration system. But here states that have already achieved or passed the SDG goals on these indicators will show little improvement, as compared to even modest improvements by states which have a very poor baseline.

The fifth key health outcome, low birth weight, and two of the intermediate health outcomes, institutional delivery rates and immunisation coverage, are measured using the Health Management Information System (HMIS) which is notoriously unreliable. For example, the data integrity indicator used for this report showed that HMIS in Uttar Pradesh over-estimates institutional deliveries by as much as 36%. This year this indicator has not been updated. Yet HMIS is the source of data for as many as 5 of the 23 indicators used and for 3 of its high weightage outcome indicators.

Other indicators also have problems of data source. As many as 8 indicators are based on self-reporting by the states, and 4 are based on the reports received by the states from the vertical disease control programmes managed by the states. Physical validation of data has been undertaken in only 3 states and 2 union territories.

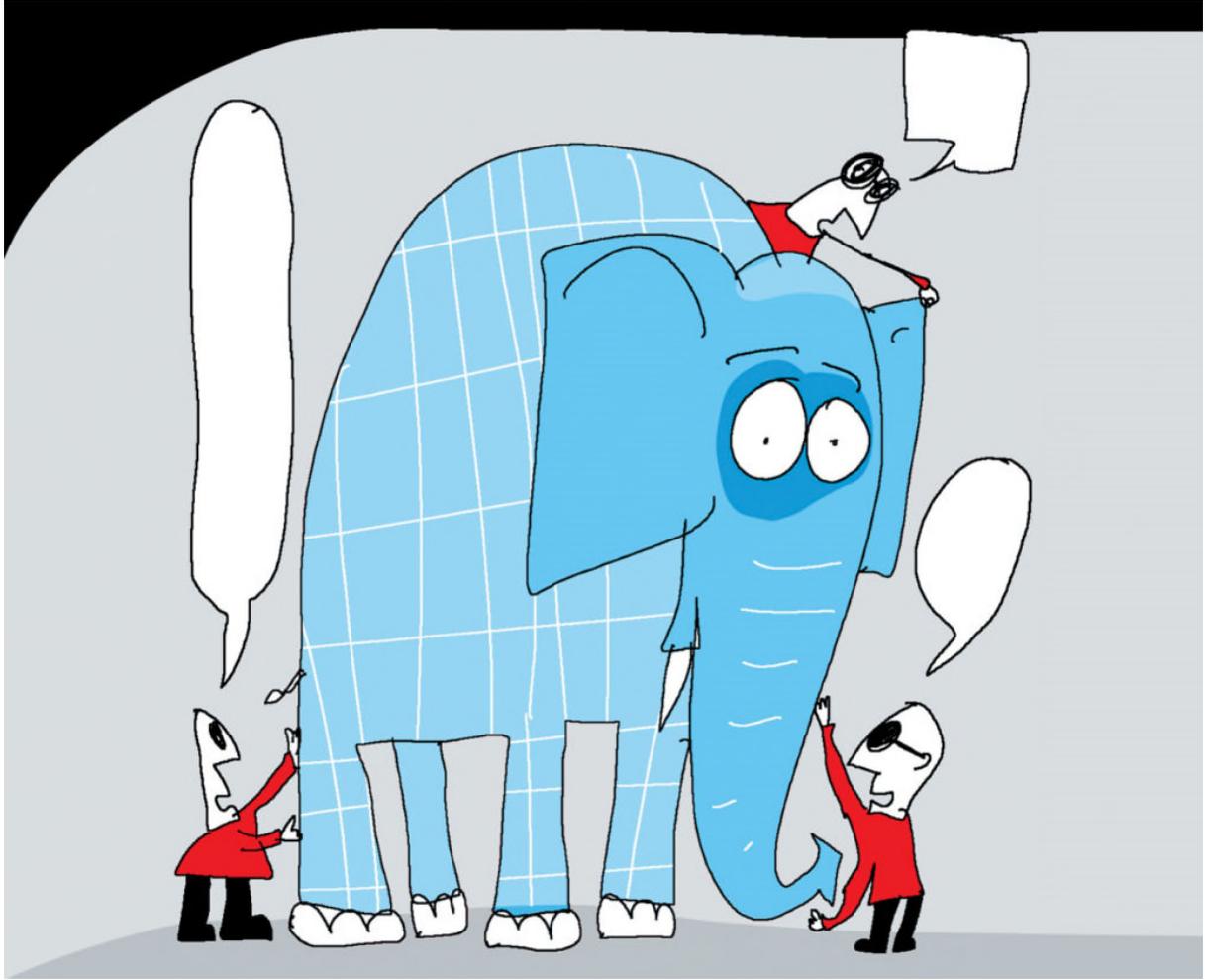
Another problem with data integrity is that the denominator used could be inappropriate across diverse states. For example, in measuring low birth weight, the denominator is the number of babies weighed and not all live births. Less efficient systems with higher inequity in access and greater problems of quality would miss weighing more babies with low birth weight.

In ante-natal care and immunisation and institutional delivery rates, Tamil Nadu has repeatedly pointed out that the denominator used is the expected number of babies born based on the 2011 census, whereas the available externally validated figure for total number of births is much lower due to falling fertility rates. If the denominators are corrected, the performance increases. Case detection rate for tuberculosis is another example. In one context low figures could denote poor performance and in another low prevalence of the disease and therefore high performance. There are similar problems with almost every single indicator as no single definition of denominator or interpretation of the reading for most indicators is applicable across all states.

Curiously, some of the most vital goals of health systems, like the reduction of catastrophic health expenditures and impoverishment due to healthcare, which have been addressed through very high profile initiatives, are not included in the list though data is available. Nor also are many vital indicators related to prevention of non-communicable diseases.

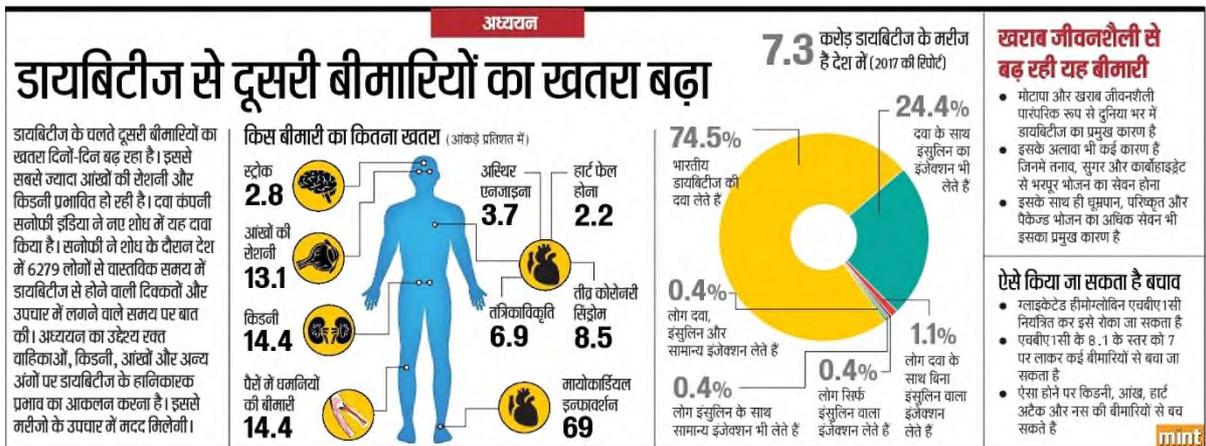
The problem of indicator choice and definition is not a technical problem. It is a political one. What would have been more appropriate would have been for the central team to sit with each state, discuss their priorities on what should be measured given the level of development of their health systems, and their economic development and jointly agree on what indicators would be used to judge their performance along with how data sources within the state would be strengthened.

In such an approach comparison with states at similar levels of development would have been more relevant, and even across all states it would have helped promote cross learning. This would also have been more in line with a federal understanding of the nation and reminded us of the diversity between states and the different choices they have made and why healthcare has been on the state list. That in itself would have been a useful outcome.



Diabetic (Hindustan: 20190628)

http://epaper.livehindustan.com/imageview_100142_49646066_4_1_28-06-2019_i_4.pagezoomsinwindows.php



Heart disease

More years of education may reduce heart disease risk: Study (New Kerala: 20190628)

<https://www.newkerala.com/news/read/164808/more-years-of-education-may-reduce-heart-disease-risk-study.html>

Extending the years of childhood education may reduce adult heart disease risk, a recent study suggests.

According to the team of researchers, people with more education may have reduced heart disease because they have higher incomes, allowing them to afford better food and health care

The findings suggest that state policies requiring children to attend additional years of school may result in a reduced risk for heart disease and improvements in several cardiovascular risk factors in adulthood.

As part of the study, the researchers conducted a natural experiment by evaluating state compulsory schooling laws, which legislate the number of years children must attend school.

From two large, national surveys conducted from 1971 to 2012, they identified more than 75,000 people born from 1900 to 1950, when states required children to attend school between 0 and 12 years. They then used U.S. Census data on a group of similar individuals to predict the number of years of required schooling for each individual, based on their year and state of birth.

Overall, about a third of the study participants did not graduate from high school. While 34.5 per cent reported heart disease, the researchers found that each year of additional compulsory schooling through high school was associated with a 2.5 per cent reduction in occurrence.

They also noted improvements in several cardiovascular risk factors with each additional year, including reductions of more than 3 per cent in smoking and nearly 5 per cent in depression.

"For clinicians and health systems struggling to address disparities in heart disease between the rich and the poor, our findings suggest that cross-sectoral interventions to address social factors like education are important," said lead author Rita Hamad.

The team of researchers suggests that as a society, we should be thinking about investing in social policies to improve overall health and reduce health care costs.

Findings were published in the Journal of PLOS Medicine.

The 2019 guidelines from the American College of Cardiology and the American Heart Association have suggested using patients' social factors in clinical prediction tools for heart disease since education is often a stronger predictor than traditional biomedical risk factors like cholesterol and diabetes.

The U.S. Department of Health and Human Services also has proposed that patients' educational attainment be used as an input in determining physician payments for performance, to encourage physicians to care for more disadvantaged patients. Hamad said this type of data could inform those efforts.

While more education also was associated with improved high-density lipoprotein (HDL), or "good" cholesterol, the researchers found that more education also was associated with a higher body-mass index (BMI) and total cholesterol.

A possible explanation is that high-income people born between 1900-1950 tended to eat richer diets, they said. By contrast, higher BMI today tends to be associated more with low income, due to the inability to afford healthy food.

Overall, according to the researchers, people with more education may have reduced heart disease because they have higher incomes, allowing them to afford better food and health care. Or, it may be that they have more resources and therefore less stress, which has been previously linked with heart disease." Hamad said.

The researchers are further examining how these same policies affect health care costs and whether the policies reduce racial disparities in heart disease.

Malnutrition

Women's agricultural labour cause of malnutrition in rural India (New Kerala: 20190628)

<https://www.newkerala.com/news/read/164570/womens-agricultural-labour-cause-of-malnutrition-in-rural-india.html>

Women's agricultural labour cause of malnutrition in rural India

In order to improve women's lives and household nutrition and health outcomes in rural India, policies need to be context-specific, taking into consideration factors such as caste and location, says new research led by an Indian-origin scientist from University of East Anglia (UEA) in Norwich, England.

Recognition of Indian women's roles in both agriculture and domestic work is key to improving household nutrition outcomes, said Nitya Rao, professor of gender and development in the UEA's school of international development.

In most of rural India, women work as agricultural and family farm labourers, in addition to performing nearly all the childcare and household duties.

Longer working hours for women or increased work intensity can have detrimental effects on their own health and, in turn, their ability to care for their children.

"Women's agricultural work could potentially have negative outcomes, especially for the young child whose nutrition depends more on the mother's time for breastfeeding and

supplementary feeding. The double burden of work and care often leads to a time trade-off between the two," said Professor Rao.

The study, published in the journal *Feminist Economics*, examined the intersections of gender with other forms of social identity and inequality.

The research drew on primary data from 12 villages in two districts, Wardha (Maharashtra) and Koraput (Odisha) between 2014-2016.

Malnutrition is high in both areas, with near or more than 50 per cent of children underweight.

In Wardha, women harvest cotton manually, but the semi-arid region has reported severe agrarian distress over the past decade.

Moreover, the smell of cotton and cotton dust causes headaches and leaves workers with no appetite or desire to cook or eat, which has implications for the rest of the household.

In Koraput, located in the semi-humid tropics, literacy rates and other human development indicators are low.

People in this region work, on average, close to 13 hours a day -- resulting in sleep deprivation especially during the peak agricultural seasons of planting and harvesting.

"We leave for our fields for transplantation early in the morning. There is no time to go to the forest to collect vegetables or greens, and no time to cook. We eat once a day - rice and ambli (sour gruel of rice flour and tamarind)," said Koraput participant Kamala Paroja.

"The lack of attention to women's time as a key factor in child nutrition outcomes is perhaps the main reason for the persistence of poor nutritional outcomes despite economic growth," said Professor Rao.

Infrastructural support that can reduce the drudgery and effort/time intensity of tasks, especially cooking, as well as clean energy and drinking water, alongside strengthening child-care services, will help India move toward the United Nations Sustainable Development Goals of reducing hunger and stopping intergenerational nutritional deprivation," the professor added.

Alzheimer's patients

AI could be a boon for Alzheimer's patients (New Kerala: 20190628)

<https://www.newkerala.com/news/read/164348/ai-could-be-a-boon-for-alzheimers-patients.html>

Artificial Intelligence (AI) can prove to be essential for healthcare providers to detect and manage Alzheimer's disease or a related form of dementia, from which 44 million people suffer worldwide.

In the study published in the Journal of Alzheimer's Disease, the team introduced supervised Machine Learning (ML) as a modern approach and new value-added complementary tool in cognitive brain health assessment and related patient care and management.

With the increasingly favourable instrument "MemTrax" -- an online memory test using image recognition -- the clinical efficacy of this new approach as a memory function screening tool has been sufficiently demonstrated.

For the study, a team of researchers including from the Florida Atlantic University, SIVOTEC Analytics and Stanford University employed a novel application of supervised ML and predictive modeling to demonstrate and validate the cross-sectional utility of "MemTrax" as a clinical decision support screening tool for assessing cognitive impairment.

The findings demonstrated the potential valid clinical utility of "MemTrax", administered as part of the online test in screening for variations in cognitive brain health.

"Findings from our study provide an important step in advancing the approach for clinically managing a very complex condition like Alzheimer's disease," said lead author Michael F. Bergeron, Senior Vice President, SIVOTEC Analytics.

"By analysing a wide array of attributes across multiple domains of the human system and functional behaviours of brain health, informed and strategically directed advanced data mining, supervised Machine Learning, and robust analytics can be integral for healthcare providers to detect and anticipate further progression in this disease and myriad other aspects of cognitive impairment," he explained.

Air pollution

Air pollution ups hypertension risk in Indian women (New Kerala: 20190628)

<https://www.newkerala.com/news/read/164257/air-pollution-ups-hypertension-risk-in-indian-women.html>

Ladies, take note. Women who are exposed to high pollution levels in India are at significantly higher risk of suffering from hypertension, warn researchers.

The research, published in the journal Epidemiology, studied 5,531 adults from 28 peri-urban villages near Hyderabad city.

"Women spend most of their time near their households in this study area - 83 per cent of their daily time as compared to 57 per cent for men -- which could explain why we observe a stronger association in women than in men", said study author Ariadna Curto from Barcelona Institute for Global Health (ISGlobal), Spain.

For the study, the research team measured systolic and diastolic blood pressure of participants and estimated their annual residential exposure to fine particulate matter (PM_{2.5}) and black carbon.

The participants also answered a survey to determine socio-economic status, lifestyle and household characteristics, including the type of cooking fuel which they generally used (biomass or clean).

Notably, all participants were exposed to fine particulate matter levels above the 10 µg/m³ limit recommended by the World Health Organization (WHO). Average exposure to PM_{2.5} in this study was 33 µg/m³.

Based on the blood pressure measurements, almost half of participants (46 per cent) were identified as hypertensive, with high proportions of participants with undiagnosed and untreated hypertension.

The results show that an increase of 1µg/m³ in PM_{2.5} exposure was associated with a 4 per cent increase in hypertension prevalence in women as well as a higher systolic and diastolic blood pressure - an increase of 1.4 mmHg and 0.87 mmHg respectively. In men, the association observed was weaker.

The research indicates that long-term exposure to particulate matter is associated with a higher prevalence of hypertension, regardless of the type of fuel used for cooking.

"In the light of our lack of association with black carbon, it is important to keep in mind that this is a peri-urban area, where the sources and chemical makeup of air pollution differ to urban areas mostly dominated by traffic sources", Curto said.

The mechanisms by which air pollution could contribute to high blood pressure "include inflammation and oxidative stress, which may lead to changes in arterial function", said study coordinator Cathryn Tonne.