



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Wednesday 20190703

Healthcare's primary problem (The Hindu: 20190703)

<https://www.thehindu.com/opinion/op-ed/healthcares-primary-problem/article28263232.ece>



It is imperative to promote community-based care rather than relying only on hospital services

The deaths of 154 children in Bihar due to acute encephalitis syndrome (AES) has laid bare the precarious capacity of the State's healthcare apparatus to handle outbreaks. AES has been linked to two factors: litchi consumption by starving children and a long, ongoing heat wave. As promises of bolstering the health infrastructure are being made, it is important to analyse what could have formed the ideal line of action.

AES is largely preventable both before and just after the onset of the disease, and treatable with high chances of success on availability of medical intervention within 2-4 hours of symptoms. Therefore, the first signs of an outbreak must prompt strong prevention measures. These include, apart from a robust health education drive and replenishing primary health centres (PHCs) with essential supplies, extensive deployment of peripheral health workers (ASHA workers) and ambulance services to facilitate rapid identification and management of suspected

cases. Vacant doctor positions in PHCs must be urgently filled through deputation. Furthermore, short-term scaling-up of the Poshan Abhiyaan and the supplementary nutrition programme — which makes available hot, cooked meals for pre-school children at Anganwadis along with take home ration for mothers and distribution of glucose/ORS packets in risk households — are imperative. Nearly every one of these elements lies undermined in Bihar.

Crumbling healthcare in Bihar

In Bihar, one PHC caters to about 1 lakh people rather than the norm of 1 PHC per 30,000 people. Furthermore, it is critical for such a PHC, catering to more than three times the standard population size, to have at least two doctors. However, three-fourths of the nearly 1,900 PHCs in Bihar have just one doctor each. Muzaffarpur has 103 PHCs (about 70 short of the ideal number) with 98 of them falling short of basic requirements outlined by the Health Management Information System. Bihar, one of the most populous States, had a doctor-population ratio of 1:17,685 in 2018, 60% higher than the national average, and with only 2% of the total MBBS seats in the country. There is also a one-fifth shortage of ASHA personnel, and nearly one-third of the sub-health centres have no health workers at all. While the State reels under the highest load of malnutrition in India, a study found that around 71% and 38% of funds meant for hot, cooked meals and take home ration, respectively, under the supplementary nutrition programme, were pilfered. Meals were served for just more than half the number of prescribed days, and only about half the number of beneficiaries on average actually got them.

This is not all. Even those PHCs with adequate supplies remain underutilised. Perennial subscription to selective healthcare services by PHCs, like family planning and immunisation, have cultivated the perception that PHCs are inept as centres of general healthcare. This leads patients either directly to apex government hospitals situated far away or to unqualified private providers. This results in a patient losing precious time in transit and landing up in a hospital in a critical and often irreversible stage of illness.

Merely strengthening the tertiary care sector will be inefficient and ineffective. Most attention was focused on the poor state of the Sri Krishna Medical College and Hospital in Muzaffarpur, with 600 beds, already functioning beyond its full capacity. Hospitals in Muzaffarpur have a bed occupancy of over 300%, three times the full occupancy. In such a case, even a significant addition of hospital beds and ICUs won't solve the problem. ICUs can only deal with the most advanced cases. A narrow focus on the hospital sector will wastefully increase costs, ignore the majority of cases, increase the number of cases that are in advanced stages, while continuing to overstretch public hospitals.

Revamp primary health infrastructure

The solution lies in building more functional PHCs and sub-health centers; scaling-up the cadres of ASHA workers; strict monitoring of nutrition programmes; and addressing the maldistribution of doctors and medical colleges. The resultant robust primary care system can then be geared towards being more responsive to future outbreaks. We should also bolster our technical capacity to better investigate the causes of such outbreaks and operationalise a concrete long-term strategy.

Policy documents, while emphasising on financial and managerial aspects of public health, fail to address the aberrant developmental paradigm of our health services. Decades of hospital-

centric growth of health services have eroded faith in community-based healthcare. In these circumstances, even easily manageable illnesses increase demand for hospital services rather than PHCs. There is need to work on inculcating confidence in community-based care.

Soham D. Bhaduri is a Mumbai-based doctor and Editor, The Indian Practitioner

HealthCare Services

25% posts of doctor vacant in rural areas (The Tribune: 20190703)

<https://www.tribuneindia.com/news/nation/25-posts-of-doctor-vacant-in-rural-areas/796264.html>

India continues to reel under a severe shortage of doctors and specialists across all levels of healthcare delivery, explaining the weak responses to epidemics like the Acute Encephalitis Syndrome outbreak in Bihar that has so far killed over 150 children.

Government records show that one in every four sanctioned posts of doctor at primary health centres in villages is lying vacant.

Read also: Med education for elite? Pvt institutes charge Rs45-75 lakh

As of March 31, 2018, India had a sanctioned strength of 34,417 doctors at PHCs across states with 8,572 vacancies. This amounts to a doctor vacancy rate of 24.9 per cent across village primary health centres.

The story of human resources is the same from the district hospital to sub-divisional hospital to community health centres.

In district hospitals, the sanctioned strength of doctors is 28,566 and the availability is 24,899. The shortfall is of 3,667 doctors. This puts the national rate of medics' shortfall in district hospitals at 12.8 per cent — nearly one vacancy in every eight posts.

Across sub-divisional hospitals, one-third of the sanctioned posts of doctor are vacant. The requirement is of 19,576 doctors and the availability is 12,432. The shortfall: 36.4 per cent (one in every three posts).

The scariest situation is at the level of specialists, defined mainly as surgeons, obstetricians, gynaecologists, physicians and paediatricians, who are to be deputed at community health centre level to take the load of referrals from PHCs and district hospitals.

CHCs in the country need 22,496 specialists, but the vacant positions number a whopping 18,422. This shortfall is as high as 81.89 per cent, which comes to eight in 10 positions of specialists being vacant.

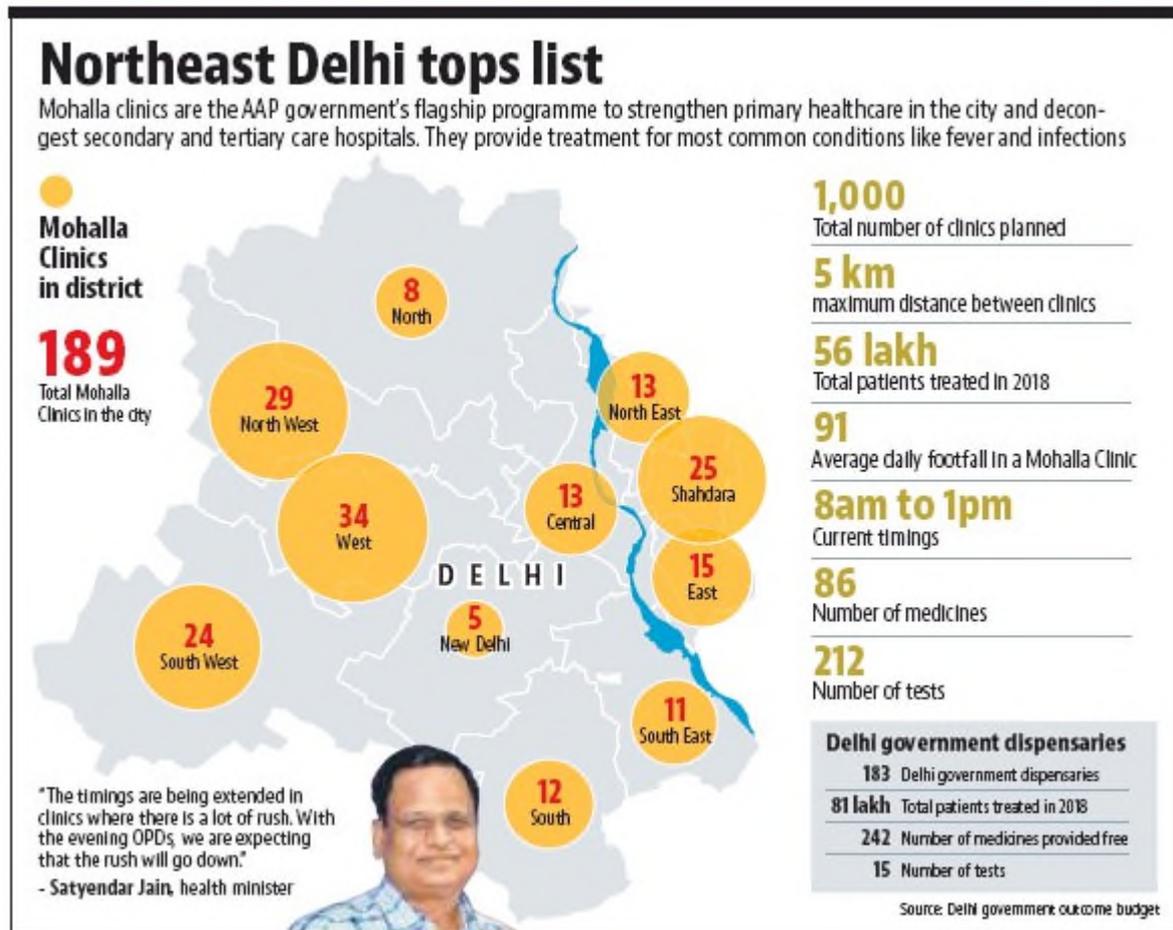
BRIDGING FEE DIVIDE

VEHICLE COST	PROPOSED TAX
Up to ₹6 lakh	5%
₹6-10 lakh	8%
₹10-20 lakh	10%
Above ₹20 lakh	12%

Mohalla clinics

Mohalla clinics open 12hrs (Hindustan Times: 20190703)

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



From Aug, at least 40 such clinics across Delhi will be open from 7am to 7pm to cater to the high demand

From page 01 NEW DELHI: The Aam Aadmi Party (AAP) government in the Capital is extending the timings of some of its mohalla or neighbourhood clinics, and in effect starting a second shift in them to cater to excessive demand.

From next month, at least 40 mohalla clinics across Delhi, each seeing visits by at least 150 patients a day will be open from 7am to 7pm, six days a week, according to a senior official from Delhi government's health department who asked not to be identified.

Mohalla clinics offer basic out-patient treatment for fever, pain and other common ailments between 8am and 1pm six days a week. In 2018, the 189 mohalla clinics across the city treated 5.6 million patients.

The Arvind Kejriwal-led Delhi government has identified clinics that treat over 150 patients every day, most of which are in Shahdara, West and the North-west district (where population density is high); these areas already have a high number of mohalla clinics.

"On average, mohalla clinics get around 100 patients a day, but some clinics treat 150 people, which puts too much pressure on the doctor. To decongest such clinics, the government has

decided to extend the OPD (out-patient department) timings in the evening. It will also be helpful for people who work during the day,” added the official.

The government could consider doing the same in other mohalla clinics “on a need basis,” this person added.

The evening clinics will start working in a month, according to officials.

“It will take some time to hire doctors and staff for the second shift and figure out the logistics. But it should get done within the month,” another official said on condition of anonymity.

Delhi health minister Satyendar Jain said: “The timings are being extended in the mohalla clinics where there is a lot of rush. People want to avoid queueing up and might not go to the clinic if it is too crowded. With the evening OPDs, we are expecting that the rush will go down. This will happen very soon as there is no need for any additional infrastructure, etc.”

The health department is in the process of setting up another 146 mohalla clinics in portable cabins (aka portacabins) . The government plans to set up a total of 1,000 such clinics across the city – one every 5km .

“Around 700 more sites for the clinics had been identified but due issues such as underground sewage pipes or low hanging electricity connections, portacabins cannot be set up in many of these. So the government has decided to expand the project by renting premises; a two-room plus two bathroom facility that is accessible and available for less than 20,000 per month,” the official said.

There is a one-time cost of R20 lakh for the construction of the portacabin clinics.

To ensure uninterrupted services at the AAP government’s flagship mohalla clinics, the government is considering separately indenting all the medicines required. The mohalla clinics dispense 86 medicines for the most common or chronic conditions like fever, infection, diabetes, or high blood pressure.

“These medicines will be indented separately by the mohalla clinic department, which will monitor the use and requirement of all mohalla clinics on a daily basis and send the medicines when needed,” said another official from Delhi government’s health department.

The government is also planning to extend the services of mohalla clinics to include routine immunisation. “Currently, routine immunisation is carried out in our dispensaries and hospitals, however, mohalla clinics do not offer the services. A proposal for including it has been considered ,” the first official said.

Currently, only the first mohalla clinic started by the government in Peeragarhi, run by staff from the national health mission, offers these services.

“The three-tier system of health care -- the primary health centre, the community health centres, and the district hospitals -- were developed with the principle that preventive and promotive care for most people will be available closest to them. Unfortunately, due to gaps in the system, patients end up coming to the bigger hospitals. If enough mohalla clinics come up, especially with the increased timings, this problem will be addressed,” said Dr Jugal Kishore, head of the department of community medicine at Safdarjung hospital.

“We already see patients who come in with their test reports from mohalla clinics. These clinics are also great for patients with chronic conditions like diabetes, they just need to monitor their sugar levels and take medicines regularly. They do not need to come to a hospital like Safdarjung and stand in long queues for it,” Dr Kishore added.

Fertilisers

No cancer link with fertilisers: Centre (The Tribune: 20190703)

<https://www.tribuneindia.com/news/punjab/no-cancer-link-with-fertilisers-centre/796183.html>

Union Minister of Agriculture and Rural Development Narendra Singh Tomar today said there was no scientific evidence to link cancer with the use of fertilisers for growing crops.

Replying to Ludhiana MP Ravneet Singh Bittu during Question Hour in the Lok Sabha, Tomar cited a report of the Indian Council of Agricultural Research (ICAR) to say that there was so far no evidence to prove that the use of fertilisers caused cancer.

Read also: Scientists, studies junk Centre’s claim on cancer

Chemical fertilisers and pesticides, if used at the right time and in right quantity in farming, did not cause any harm, he said.

Bittu raised the matter as regards prevalence of cancer in the state and its possible causes. He said arsenic found in water in Punjab area entered the food chain, posing a risk to human health.

Minister of State for Agriculture Parshottam Rupala said, “Punjab has not accepted the Ayushman Bharat Scheme. You should go there and tell this. If you want to help cancer patients, you should accept it.”

Of Punjab’s cancer belt malwa

Glyphosate, a commonly used herbicide in Punjab, was banned six months ago after scientific studies showed it caused rare kidney and pancreatic cancers. “We got it banned,” says Prof JS Thakur, PGIMER, Chandigarh

As per a study, the incidence of cancer in Punjab’s cotton belt Malwa is dramatically high owing to indiscriminate use of pesticides.

Depression

Children likely to suffer from depression long after being bullied: Study (The Tribune: 20190703)

<https://www.tribuneindia.com/news/health/children-likely-to-suffer-from-depression-long-after-being-bullied-study/796103.html>

Young adults, who were bullied as a child, are at significantly greater risk of depression due to a mix of genetic and environmental factors, a study has found.

Using detailed mood and feelings questionnaires and genetic information from 3,325 teenagers who were part of Bristol's Children of the 90s study, researchers found that childhood bullying was strongly associated with trajectories of depression that rise at an early age.

Children who continued to show high depression into adulthood were also more likely to have genetic liability for depression and a mother with postnatal depression.

However, children who were bullied but did not have any genetic liability for depression showed much lower depressive symptoms as they become young adults.

"Although we know that depression can strike first during the teenage years we didn't know how risk factors influenced change over time," said Alex Kwong, a PhD student at University of Bristol in the UK.

"Thanks to the Children of the 90s study, we were able to examine at multiple time points the relationships between the strongest risk factors such as bullying and maternal depression, as well as factors such as genetic liability," Kwong added.

The study, published in the journal JAMA Network Open, has found that young adults who were bullied as children were eight times more likely to experience depression that was limited to childhood.

However, some children who were bullied showed greater patterns of depression that continued into adulthood and this group of children also showed genetic liability and family risk, it said.

"However, just because an individual has genetic liability to depression does not mean they are destined to go on and have depression. There are a number of complex pathways that we still don't fully understand and need to investigate further," Kwong said.

Rebecca Pearson, lecturer at the university, said the results can help us to identify which groups of children are most likely to suffer ongoing symptoms of depression into adulthood and which children will recover across adolescence.

"For example, the results suggest that children with multiple risk factors (including family history and bullying) should be targeted for early intervention but that when risk factors such as bullying occur in isolation, symptoms of depression may be less likely to persist," she said.

— P



Marijuana

Marijuana can be effective in treating pain, insomnia: Study Study (The Tribune: 20190703)

<https://www.tribuneindia.com/news/health/marijuana-can-be-effective-in-treating-pain-insomnia-study/796090.html>

Cannabis can treat both pain and insomnia in people who want to avoid prescription and sleep medications, a study has found.

The study, published in the Journal of Psychoactive Drugs, looked at 1,000 people taking legalised marijuana in an American state.

Researchers in the US found that among the 65 per cent of people taking cannabis for pain, 80 per cent found it was very or extremely helpful.

Eighty-two per cent of these people were able to reduce, or stop taking over the counter pain medications and 88 per cent were able to stop taking opioid painkillers.

The study suggested that cannabis could lower opioid use. However, the researchers noted that more needs to be done to understand the potential therapeutic benefits of cannabis.

Traditional over the counter medications and painkillers can help, however they may have serious side effects. Opioids depress the respiratory system, meaning that overdoses may be fatal.

“People develop tolerance to opioids, which means that they require higher doses to achieve the same effect. This means that chronic pain patients often increase their dose of opioid medications over time, which in turn increases their risk of overdose,” said Julia Arnsten, professor at Albert Einstein College of Medicine.

Although less common, sleeping pills can lead to dependence, and can also cause grogginess the next day, interfering with people's work and social lives, she said.

As a consequence, some people have started taking marijuana to help with their symptoms, according to the study. PTI

Cancer

Scientists, studies junk Centre's claim on cancer (The Tribune: 20190703)

<https://www.tribuneindia.com/news/punjab/scientists-studies-junk-centre-s-claim-on-cancer/796173.html>

Union Agriculture Minister Narendra Singh Tomar said in the Lok Sabha on Tuesday that there was no scientific basis to link the use of fertilisers and pesticides to cancer. But there is ample scientific evidence available to establish that pesticides can cause cancer.

While responding in Parliament to remarks by two Punjab MPs — Ravneet Singh Bittu and Bhagwant Mann — that “exponential rise” in cancer cases in Punjab was due to excessive use of pesticides, Tomar said cancer cases in Punjab was equal to the national average.

Read also: No cancer link with fertilisers: Centre

Experts have different opinion. Prof JS Thakur, School of Public Health, PGIMER, Chandigarh, said there was no doubt that pesticides cause cancer. “Cancer institutes across the world list pesticide as carcinogenic. There are multiple causes of cancer in India with tobacco and environment-related ones dominate the list. A decade-and-a-half ago, we did a study on Punjab and pesticide figured as one of the causes.”

He said Glyphosate was a commonly used herbicide in Punjab till last year, but it was banned six months ago because scientific studies had established it caused rare kidney and pancreatic cancers.

The state had announced, “This chemical has been observed to be a Group 2A cancer-causing material.”

The study had found that though incidence of cancer in Punjab was on par with national cancer prevalence rate, in the Malwa region it was dramatically high.

What international institutes say

Earlier in 2015 after evaluating around 1,000 published scientific studies, France's International Agency for Research on Cancer (IARC) had classified glyphosate as “probably carcinogenic to humans”

The Cancer Council, Australia, says three chemicals used as pesticides — arsenic, ethylene oxide and lindane — are among agents rated as Group 1 carcinogens, or conclusive causes of cancer. These are no longer used in pesticides in Australia

Pesticide Action Network (North America) finds that pesticides can trigger cancer in a variety of ways, including disrupting hormones, damaging DNA and turning genes on or off. Many pesticides are “known or probable” carcinogens. Children are especially at risk of getting cancer from pesticide exposure and childhood cancer rate is on rise. Studies show that pesticide exposure during pregnancy and throughout childhood increase the risk of cancer among children

When Bayer paid price

In May this year a jury in California ordered Bayer-owned Monsanto to pay more than \$2 billion damages to a couple in San Francisco that sued on grounds weed killer ‘Roundup’ caused their cancer. The award was the latest in a series of court defeats for Monsanto over Roundup. It insists the glyphosate-based product is not linked to cancer.

Suicide count varies

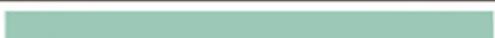
Telling numbers: How suicide count varies among the states, across age groups (The Indian Express: 20190703)

<https://indianexpress.com/article/explained/telling-numbers-how-suicide-count-varies-among-the-states-across-age-groups-5811771/>

Uttar Pradesh, the most populous state, had the 11th highest suicide count. UP had 3,902 suicides in 2015 while Tamil Nadu had four times as many at 15,777, second only to Maharashtra’s 16,970. Most of the larger states had higher suicide counts than smaller states, but there were exceptions.

Among all states, Maharashtra had the highest number of suicides in 2015, according to National Crime Records Bureau (NCRB) data tabled by the government in Parliament on Tuesday. The NCRB’s ‘Accidental Deaths and Suicides in India’ report for 2015 is the latest such report, and lists 1,336,623 suicides across the country that year.

STATES WITH HIGHEST SUICIDE COUNTS, 2015

Maharashtra		16,970
Tamil Nadu		15,777
West Bengal		14,602
Karnataka		10,786
MP		10,293
Telangana		10,140
Kerala		7,692
Gujarat		7,246
Chhattisgarh		7,118
Andhra		6,226

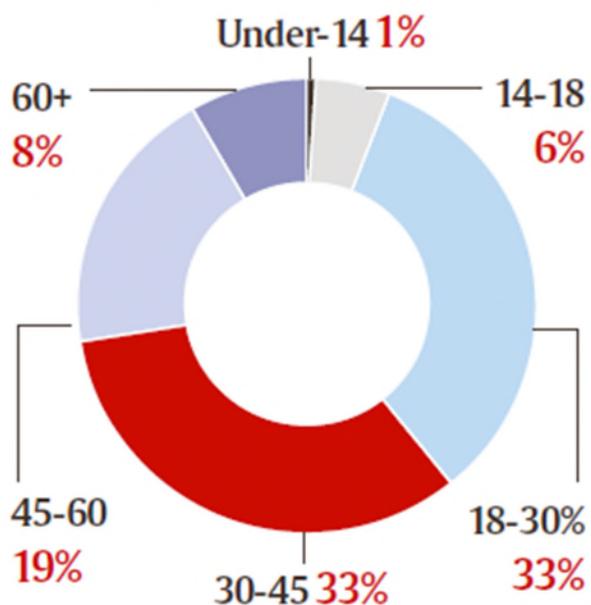
OTHER LARGE STATES

UP 3,902 | Bihar 516 | Rajasthan 3,457

Source for all data: 'Accidental Deaths and Suicides in India' (NCRB) via Home Ministry

Most of the larger states had higher suicide counts than smaller states, but there were exceptions. Uttar Pradesh, the most populous state, had the 11th highest suicide count. UP had 3,902 suicides in 2015 while Tamil Nadu had four times as many at 15,777, second only to Maharashtra's 16,970. Bihar, one of the country's most populous states, was another exception, with its count of 516 suicides lower than that of many smaller states.

BREAKUP BY AGE



Minister of State (Home) Nityanand Rai tabled the NCRB data in Lok Sabha in reply to a question by Poonam Mahajan. Among various aspects, she had sought to know whether young adults account for 33% of the suicide cases in India. The NCRB data show that one-third of the suicides in the country in 2015 were committed by young adults under age 30, and another one-third by people in the age group 30-45. Of the 1,336,623 suicides, 43,852 involved people who were aged over 18 and under 30, while another 44,593 were of people who were aged over 30 and under 45.

New drive against drugabuse

New drive against drugabuse among students (The Hindu: 20190703)

<https://www.thehindu.com/news/cities/Kochi/new-drive-against-drugabuse-among-students/article28141623.ece>

The Indian Medical Association, Kochi, in association with city-based non-governmental organisation MAGICS, is launching a novel campaign against drug abuse among schoolchildren.

The idea is to keep children away from cellphones and cash which make them easy prey to drug peddlers, says Junaid Rahman, president, IMA-Kochi.

Children do not need mobile phones and these are not allowed in schools, said Praveen Pai of MAGICS. However, parents feel more assured if they have some kind of access to children, given the safety concerns of present times. Children also keep cash in hand to meet their needs like buying snacks or stationery.

According to Dr. Pai, the plan is to make both school authorities and parent-teacher associations aware of 'Student Mobiles' that have facilities to make and receive calls from pre-set numbers. A cash-card system in schools would help children avoid cash transactions for any needs in schools. MAGICS would be sourcing the technological know-how to implement the programme, he said.

Coinciding with International Day Against Drug Abuse and Illicit Trafficking, the programme would be formally launched on Wednesday.

Drug abuse

Run to raise awareness against drug abuse (The Hindu: 20190703)

<https://www.thehindu.com/news/cities/Kochi/run-to-raise-awareness-against-drug-abuse/article25982810.ece>

In high spirits: Runners at the Cochin Monsoon Marathon against drug abuse held in Kochi on Saturday.

In high spirits: Runners at the Cochin Monsoon Marathon against drug abuse held in Kochi on Saturday. | Photo Credit: Special Arrangement

More than 1,200 persons participate in Cochin Monsoon Marathon; Kenyan national bags first prize

The State Mission for De-addiction, Vimukthi, under the Excise Department, organised the Cochin Monsoon Marathon to raise awareness against drug abuse on Saturday.

The event, supported by the district administration and the Kochi Corporation, was titled 'Let's run against drugs' and was flagged off at 5.30 a.m.

It included an approximately 21-km half-marathon from Maharaja's College Ground to Willingdon Island and back and a shorter 'fun run' that was open to the public.

The runs were flagged off by dignitaries, including Minister for Excise T.P. Ramakrishnan, Excise Commissioner Rishi Raj Singh, and District Collector K. Mohammed Y. Safirulla. While the half-marathon saw the participation of over 1,200 people, more than 4,000 persons took part in the fun run. There were separate runs in several categories, including that for the differently-abled.

As many as eight Kenyans and an American also took part in the half-marathon.

Kenyan national Issac Duoro won the half-marathon and took home a cash prize of ₹50,000. The prize was presented by Mr. Singh and Hibi Eden, MLA, Ernakulam.

xperience with zero advertis



Major Health Sector Reforms (The Asian Age: 20190703)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=13305622>

■ Passage of bill will usher in major health sector reforms : Vardhan

LS clears Bill to supersede Medical Council

AGE CORRESPONDENT
NEW DELHI, JULY 2

The tainted Medical Council of India (MCI) would soon be replaced with a new body — National Medical Commission (NMC) — which would ensure greater transparency, accountability and quality in governing medical education in the country.

This was facilitated by the passage of the Indian Medical Council (Amendment) Bill 2019 in

Lok Sabha through voice vote on Tuesday.

This bill provides for supersession of MCI for a period of two years with effect from September 26, 2018, during which the board of governors will run it.

It will replace an Ordinance promulgated on February 21, 2019.

In other words, the Indian Medical Council (Amendment) Bill is the first step towards gradually replacing the MCI, the much maligned governing

body of the medical fraternity with NMC. Health minister Harsh Vardhan said that it will usher in comprehensive reforms in the sector. The minister informed Lok Sabha that the government is working on the NMC bill and “will soon

take it to union cabinet and then in Parliament”.

He said the NMC bill, which was introduced in December, 2017, lapsed with the dissolution of the 16th Lok Sabha.

On the Medical Council (Amendment) Bill, the minister said that the board of governors (BoG) which had replaced the MCI has worked well and taken a series of steps to improve medical education in the country.

The BoG has granted accreditation to more

number of medical colleges, increased number of seats and reduced procedural hurdles, he said, adding it is manned by doctors of great repute.

“This is just abeginning of our work and you will see radical reforms in the medical education of the country,” he said.

The MCI was set up under the Medical Council Act 1956, for setting standards for medical professionals, new medical colleges and revision of curriculum, among others.

E- Cigarettes ((The Asian Age: 20190703)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=13305948>

NEWS NUGGETS

'E-CIGARETTES DAMAGE BRAIN STEM CELLS'

New York: US researchers have found that electronic cigarettes, often targeted at youth and pregnant women, produce a stress response in brain stem cells. Present throughout life, stem cells become specialised cells with more specific functions, such as brain cells, blood cells, or bone. "Although originally introduced as safer, ECs, such as Vuse and JUUL, are not harmless," said a researcher. "Even short-term exposure can stress cells in a manner that may lead, with chronic use, to cell death or disease. Our observations are likely to pertain to any product containing nicotine," Zahedi said.



— PTI

Cancer cells self-destruct

Found: A way to make cancer cells self-destruct (Thev Times of India: 20190703)

<https://timesofindia.indiatimes.com/home/science/found-a-way-to-make-cancer-cells-self-destruct/articleshow/70050311.cms>

Read more at:

http://timesofindia.indiatimes.com/articleshow/70050311.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

Read more at:

http://timesofindia.indiatimes.com/articleshow/70050311.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

Unusual parasite metabolism,

Unusual parasite metabolism, a ray of hope against drug-resistant parasites (New Kerala: 20190703)

<https://www.newkerala.com/news/read/167666/unusual-parasite-metabolism-a-ray-of-hope-against-drug-resistant-parasites.html>

According to a report issued by World Health Organisation, it has been found that over one billion people, including 880 million children, are infected with intestinal nematode worms, such as roundworms, hookworms and tapeworms.

The study was published in the journal 'eLife.'

The infections are especially common in developing countries due to a lack of clean water and sanitation. If left untreated, they can leave a lasting mark on health and can also prove to be fatal.

Andy Fraser, a professor of genetics said, "We serendipitously discovered a new way to kill these parasites without harming the human host."

"These parasites pose a major global health burden and as their resistance to the available drugs continues to grow, so does the need to develop new therapies," he says.

The research was led by three graduate students, Samantha Del Borrello, Margot Lautens and Kathleen Dolan, and in collaboration with Amy Caudy, also a professor of molecular genetics.

Fraser's team was testing their new method for unpicking how drugs affect the movement of a non-parasitic nematode, *Caenorhabditis elegans*, used as a stand-in for humans by researchers across the world.

The first drug they tried was cyanide because its effects are well known and they wanted to make sure the new system works. Cyanide blocks respiration and, as expected, when added to the lab dish containing the worms, it quickly paralyzed them. But to the researchers' surprise, the worms did not die. They resumed wriggling about as if nothing happened when the drug was washed out 24 hours later.

It turned out that the cyanide made the worms switch to another, unusual form of metabolism that makes energy without needing oxygen. This type of anaerobic metabolism has been known to occur in parasitic worms, allowing them to survive for long periods of time in the airless confines of the gut, or RQ.

Crucially, humans do not make RQ (energy using a molecule called rhodoquinone). That makes it a perfect target for drug development because the drugs will selectively kill the parasites without touching their human host.

But first, the researchers needed oysters. Oysters and other coastal molluscs are among the few organisms besides the nematodes that produce RQ, probably as an adaptation to changing oxygen levels brought about by tide turns. Because RQ is not commercially available, one of the researchers had to extract it from the oysters, brought from a store and later used it to optimize the mass spectrometry instrument to detect RQ in worms.

Now they tested about 80 different mutant worm strains before finding one unable to make the molecule -- and thus unable to survive in cyanide -- indicating that the mutated gene is required for RQ biosynthesis. This finding upended widely accepted ideas about how RQ is made. Most importantly, it also showed them clear ways to try to block RQ synthesis with drugs.

Del Borello is now testing thousands of compounds to find candidates that kill *C.elegans* drug when it's using RQ and which could be developed into new drugs against parasites.

From testing new equipment to solving parasite metabolism, the way the project turned out took everyone by surprise.

"This was not at all what we expected when we started out," says Lautens who credits the whole team for their success. "That we've been able to contribute to a field that has not seen much progress in many years is a testament to how hard everyone's been working on it with a lot of different perspectives."

Combined physical and mental disorders

Combined physical and mental disorders increase emergency department visits: Study (New Kerala: 20190703)

In a recent study it has been found that people suffering from both physical illnesses and mental disorders visit emergency department more than those who suffer from multiple physical illnesses or mental illness alone.

The study was published in the journal, 'Canadian Medical Association Journal.'

Mr Marc Simard, lead author of the study said, "Physical multimorbidity and mental disorders are associated with frequent visits to the emergency department."

"When both are present, the sum of their impacts is greater than its parts. This potential synergy between physical multimorbidity and mental disorders significantly increases the total impact on public health," the author concluded.

The large study considered data on more than 5.3 million adults in Quebec, Canada, between 2012 and 2016. Researchers found that each additional physical illness in people with mental illness was associated with a larger increase in frequent visits to the emergency department compared to people without mental illness.

Between people with 0 to 4 or more physical conditions, the absolute risk increased 16.2 per cent for people with serious mental health disorders compared to people with common mental health issues (15.3 per cent) or no disorders (11.4 per cent).

The researchers suggest that innovative health methods such as using clinical case managers in emergency departments to connect patients to non-emergency care providers could improve the care such patients receive. Several approaches to promote high-quality care for mental illness have the potential to prevent up to 6 per cent of emergency visits in Quebec.

Dr Mark Sinyor, one of the researchers of the study said, "The linked study used a rigorous methodology to show and quantify what should be intuitive to those of us who routinely treat patients with comorbid psychiatric and medical conditions."

"It contributes to a growing understanding of the interrelationship between mental and physical illness and suggests the need for a parallel synergy in the treatment strategy of these conditions, which is already beginning to occur," Sinyor added.

"[T]he close interplay between mental and physical disorders strongly suggests that health care should ideally be provided via a collaborative approach in centres with expertise in both types of conditions," argue the authors.

Swine Flu (Navbharat Times: 20190703)

<http://epaper.navbharattimes.com/details/43489-62935-1.html>

स्वाइन फ्लू से अब तक अस्पतालों में 31 मौतें

■ प्रमुख संवाददाता, नई दिल्ली

स्वाइन फ्लू से अब तक दिल्ली में 31 लोगों की मौत हो चुकी है, पिछले आठ सालों में सबसे ज्यादा मौत इस बार हुई है। यहीं नहीं, इस साल स्वाइन फ्लू के मामले में भी भारी इजाफा देखा जा रहा है। अब तक दिल्ली में एच1एन1 वायरस की वजह से कुल 3573 मामले की पुष्टि हो चुकी है, जिसमें से 31 लोगों की मौत हो गई। नेशनल सेंटर फॉर डिजीज एंड कंट्रोल (NCDC) की तरफ से जारी आंकड़ों में इसका खुलासा हुआ है। बता दें कि पिछले साल केवल 205 मामले आए थे और दो की मौत हुई थी।

एनसीडीसी के रिकॉर्ड के अनुसार, 2012 में सिर्फ एक मौत हुई थी। उसके बाद सबसे ज्यादा मौत 2013 में 16, 2015 में 12, फिर 2018 में 16 लोगों की जान गई थी। इसके बाद इस साल 2019 में 31 लोगों की जान गई है। यूं तो पूरे देश में इस सीजन में अब तक 1076 लोगों की मौत हो चुकी है। हालांकि, डॉक्टरों का कहना है कि एच1एन1 से अब डरने वाली बात नहीं है। इसका पूरा इलाज है, बस जरूरी है कि लोग समय पर अस्पताल पहुंचें। डॉक्टर का कहना है कि दिल्ली में मरने वाले अधिकांश मरीज दिल्ली से बाहर



के हैं, लोग इलाज के लिए यहां आते हैं और उनकी मौत हो जाती है।

दिल्ली में डेंगू, मलेरिया और चिकनगुनिया के भी मामले तेजी से बढ़ते देखे जा रहे हैं। रिपोर्ट के अनुसार, दिल्ली में अब तक डेंगू के 67 मामले आ चुके हैं, जबकि मलेरिया के नौ और चिकनगुनिया के 19 मामले की पुष्टि हुई है। पिछले साल दिल्ली में डेंगू के कुल 7136 मामले आए थे, जिसमें 10 की मौत हुई थी। हालांकि इस बारे में डॉक्टरों का कहना है कि अभी गर्मी है, इसलिए मामले कंट्रोल में हैं। डेंगू, मलेरिया और चिकनगुनिया मच्छरों के जरिए एक से दूसरे में फैलता है, बारिश होते ही मच्छरों की उत्पत्ति होगी और फिर इसके मामले में भी इजाफा हो सकता है।