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2 centres to monitor side effects of drugs

Kounteya Sinha | TNN

New Delhi: Two centres have been established in Delhi to combat adverse drug reactions (ADR) — unintended side effects — some of which could prove fatal. They are part of 22 such monitoring centres that have been established across the country.

These centres have been put under the country’s new pharmacovigilance programme. Records say between 2006 and 2008, India saw 11,633 cases of ADRs.

Under the country’s new programme — since September 2010 — 1,394 cases of ADR have been reported. None of the ADRs, however, have led to any restriction/prohibition on any drug in the country so far. In some countries, ADR-related costs — such as hospitalisation, surgery and lost productivity — exceed the cost of medication.

“No medicine is risk free. Vigilant assessment of the risks and benefits of medicines promotes patient safety,” said an expert.

All India Institute of Medical Sciences (AIIMS) in New Delhi has been made the national coordination centre for monitoring ADRs in the country. Among the 22 centres, Delhi has two, including AIIMS, West Bengal (2), Tamil Nadu (2), Orissa (2), Jammu and Kashmir (2) with Assam, Chandigarh, Madhya Pradesh, Puducherry, Karnataka, Uttarakhand, Maharashtra, Haryana and Punjab having one each.

According to the World Health Organization (WHO), at least 60% of ADRs are preventable, and can occur due to wrong diagnosis of the patient’s condition, prescription of the wrong drug or wrong dosage of the right drug, an undetected medical, genetic or allergic condition that might cause a patient reaction, self-medication with prescription medicines, not following the instructions for taking the medication and use of a sub-standard medication whose composition and ingredients do not meet the correct scientific requirements and can be ineffective and often dangerous.
India aims to have a doc for every 1,000 people by 2031

Shortfall of Doctors Expected To Touch 9.54L In 20 Years, Finds MCI Study

New Delhi: India has just one doctor for 1,700 people. In comparison, the doctor population ratio globally is 1:5.1,000. An internal note prepared by the Medical Council of India’s ‘Undergraduate Education Working Group’ said the target being put in place for India is 1 doctor for 1,000 population by 2031.

The note, available with TOL, also looked at the situation in other countries. Somalia has one doctor for 10,000 population, Pakistan has one doctor for 1,923 population and Egypt has one doctor per 1,484 population. China’s doctor population ratio stands at 1:1,052, Korea 1:361, Brazil 1:414, Singapore 1:714, Japan 1:506, Thailand 1:506, UK 1:469, US 1:350 and Germany 1:296.

The note said an in-depth analysis of the number of doctors in the country was done. The next exercise that the working group undertook was to estimate the number of doctors needed to achieve this target. The working group looked at the existing number of medical colleges, the current intake of these colleges and the critical mass of doctors that would be needed to achieve this target.

Currently, there are 320 medical colleges with an intake of approximately 35,000 students. With this intake, the shortage of doctors by 2031 is estimated to be 9.54 lakh.

The note said that in view of the projected increase in population, the existing medical colleges would be unable to meet this need and the current intake of medical colleges and the critical mass of doctors needed to be at least doubled to achieve the target.

The working group also looked at the problem of teacher shortage in medical colleges. India’s present needs 29,400 teachers but there is a shortfall of 6,546 teachers. There will be an additional need for 35,740 teachers in India soon, the report said.

According to the detailed break-up, subjects like anatomy, physiology, biochemistry, pharmacology, pathology, surgery, medicine and forensic medicine each need 2,000 faculty members. But almost all these departments have a current shortfall of 500-1,500 teachers. Additionally, all these departments would need another 2,000-3,500 teachers in the near future.

Community medicine at present needs 2,400 teachers and has a shortfall of 500 teachers and would additionally need 2,900 teachers. Gynaecology currently requires 1,600 teachers and would need an additional 1,760 faculty members.

Under short-term solutions, the committee recommended increasing the intake in existing medical colleges wherever adequate infrastructure of teachers and equipment was available. It also suggested attaching established medical colleges to district-level hospitals or secondary hospitals run by government agencies.

In medium-term solutions, achievable in three years, it was recommended to upgrade larger district hospitals and augment their infrastructure to become community medical colleges through public-private partnerships.

Under long-term solutions, achievable in five years, starting new medical colleges and hospitals was recommended, preferably in states and areas underserved by doctors and medical colleges.

According to a Planning Commission report, India is short of six lakh doctors, 10 lakh nurses and two lakh dental surgeons. Ironically, Indian doctors who have migrated to developed countries form nearly 5% of their medical workforce. Almost 60,000 Indian physicians are estimated to be working in countries like US, UK, Canada and Australia alone.

The note was prepared by a committee including Prof. George Mathew, principal, Christian Medical College; Prof. Nilima Kharirgna, former vice-chancellor of Maharshtra University of Health Sciences; Prof. J.M. Kaul, professor and former principal, Maulana Azad Medical College; Prof. Sandeep Gulab, professor, department of surgery, All India Institute of Medical Sciences, and Brig. Chander Mohan, former head of radiodiagnosis at Army Hospital (Research and Referral).
The democratic stream of governance which emerged from the high peaks of the freedom struggle is over 60 years old. Now a river; it has seen the disintegration of governments which forfeited people's confidence by disregarding the cardinal principles of liberty and justice.

Robert Ingersoll, American political leader and orator during the Golden Age of Freethought, had said, “A government founded on anything except liberty and justice cannot stand.”

People gave a second mandate to the Manmohan Singh government seeing the promise of good governance. It was a promise that had emerged from UPA-I’s five-year term. People’s goodwill translated into votes as they expected the promise to transform into reality.

Less than two years down the line, UPA-II has lost sheen because of spiralling prices, scams of unfathomable magnitude and inability to protect integrity of institutions. The PM’s impeccable integrity is no longer able to veil the spread, weight and effect of these three.

Dhananjay Mahapatra

It is telling on the PM’s body language, be it the irregular allotment of mobile licences in 2G spectrum scam or appointment of the chargesheeted P.J. Thomas as central vigilance commissioner. People had taken with a pinch of salt the PM’s comment that coalition compulsions were behind his inability to check A Raja’s greed in the spectrum scam.

In the CVC episode, more the government defended Thomas’s appointment in the Supreme Court, the more it reduced the PM’s moral authority. For, he and his home minister, P Chidambaram, had insisted on Thomas trampling the dissent from leader of Opposition Sushma Swaraj.

This dealt a heavy blow to people’s unshakeable confidence in Singh. He may in private rue and feel hurt for being misled on Thomas, and in public take responsibility for the decision, but the truth is that the halo of integrity around him is shrinking faster than Himalayan glaciers.

Abraham Lincoln had said, “If you once forfeit the confidence of your fellow citizens, you can never regain respect and esteem. It is true that you can fool all the people some of the time and some of the people all the time, but you cannot fool all the people all the time.”

We are not concerned if these issues have given a handle to the opposition in Parliament or outside to target the government. We the people of India are concerned about the governance deficit.

LEGALLY SPEAKING

In the landmark Kesavananda Bharati Sripadagalvaru vs Kerala judgment [1973 (4) SCC 225], the Supreme Court had said, “Democracy proceeds on the basic assumption that representatives of the people in Parliament will reflect the will of the people and that they will not exercise their powers to betray the people or abuse the trust and confidence reposed on them by the people.”

Our captain Manmohan Singh has not batted well in the second innings so far; worse, President Pratibha Patil, as the coach of the governing team, has not played her constitutionally described role properly. She has not lived up to the role defined by the apex court in Shamsher Singh vs State of Punjab [1974 (2) SCC 831].

The court had said, “President of India is not a glorified cipher: She represents the majesty of the State, is at the apex, though only symbolically, and has rapport with the people and parties being above politics. Her vigilant presence makes for good governance. President, like the kings, has not merely been constitutionally romanticised but actually vested with a positive role. There is no doubt that the imprint of her personality may chasten and correct the political government, although the actual exercise of the functions entrusted to her by law is in effect and in law carried on by her duly appointed mentors, i.e., the PM and his colleagues.”

When both the captain and the coach falter on the constitutional touchstone, the public anger becomes palpable and personal apologies do little to salvage lost ground.
Panel to pinpoint malaria death figure

The Disease Kills 13 Times More Indians Than Estimated By WHO, Claims Report

Koustava Sinha | TNN

New Delhi: How many people die of malaria in the country every year? The government is not sure and has, therefore, formed a 15-member expert group under the chairmanship of Dr Padam Singh, former additional director-general of Indian Council of Medical Research, to pinpoint the country’s exact malaria deaths.

According to figures from the country’s National Vector Borne Disease Control Programme (NVBDCP), India records around 1,600 deaths every year due to malaria. The World Health Organisation, on the other hand, says that 15,000 people die of malaria annually in India.

Now, a recent paper published in the British medical journal ‘Lancet’ said that malaria kills 15 times more Indians every year than estimated so far by WHO. This means that two lakh people under the age of 70 die of malaria every year. Of these, 90% of the deaths are in rural areas and 85% do not occur in any healthcare facility, according to the ‘Lancet’ study.

Confirming this to TOI, a ministry official said, “At present, the malaria mortality figures quoted by NVBDCP are fines cases which are microscopically confirmed. WHO uses its own methodology while ‘Lancet’ used another model.” The official said, “The expert committee, which has members from the ministry, WHO, ICMR and National Institute of Medical Statistics is currently working on developing a mathematical formula to assess the country’s actual malaria death burden.”

The minutes of the last meeting of the expert group held on December 7, available to TOI, said, “The meeting was convened to come out with our own national estimates of malaria attributable deaths that will bridge the gap between the figures of the programme and the ‘Lancet’ paper.”

Dr Singh has, meanwhile, asked NVBDCP to come out with comments on why the ‘Lancet’ paper’s findings should not be accepted. Experts then said that the WHO model giving upper and lower estimates had limitations and WHO be asked to give a pointed number.

With 17,000 cases, cheating on rise in UK varsities

London: Cheating is widespread at British universities, including the prestigious Oxford University, with over 17,000 incidents being recorded during the academic year 2009-2010, a survey has revealed.

The survey of more than 80 universities has found that academic misconduct is soaring at institutions across the UK, with thousands of students caught plagiarising, trying to bribe lecturers and buying essays from the internet. However, only a handful of students were expelled for their misdemeanours, the survey found.

Greenwich University recorded the largest number of cheating incidents overall, with 916, compared with 540 in 2006-08; Sheffield Hallam had the second largest number with 801 last year; more than 500 of which were for plagiarism.

Loughborough University reported 151 incidents last year of which 43 were committed by postgraduates while East London University said that among its 733 cases of cheating last year there were 612 of plagiarism.

Oxford University reported 12 cases of academic misconduct, including plagiarism, last year and in two cases students were expelled, while others were marked down. The university fined one student for taking revision notes into an exam.

The university fined one student £100 pounds for taking revision notes into an examination and imposed other fines for talking in an examination and taking cell phones into the examination hall, The Sunday Telegraph reported.
Indian students win robot competition

Aaditi Isaac/TNN

The Spring Innovations competition, a robot contest held at Nanyang Technological University, Singapore, was won by an 11-member team from the Bharath University, Chennai, in the category of ‘best performance for innovation.’

Talking about how the idea for making a robot came into being, Baljeet Singh, a member of the team said, “We saw robots playing soccer at a competition and we really liked the co-ordination among the robots. When we heard about the competition in Singapore, we decided to make a prototype robot that could do more than just one thing.”

The humanoid robot designed by the team is 58 cm long and weighs 4.3 kg. The robot runs on battery and can talk in several languages, dance, sing, walk, sit, stand up, pick objects, recognise faces and detect obstacles while walking. The robot can also be programmed to enable a 360-degree movement.

Making the humanoid robot in a short time wasn’t easy for the team. “It was like teaching a child to walk. Assembling the parts of the robot took us time and we had to be extra careful because the connection in the robot is interconnected,” said Baljeet.

Roboin, a Chennai-based team that provides training to students in schools and colleges, helped the team by providing them with the necessary kit.
A nuclear renaissance

Aaditi Isaac/ TNN

DECOMMISSIONING nuclear waste is an emerging area in the field of nuclear science. This is a nuclear renaissance age where a lot of research is happening in the area of nuclear waste disposal.

According to RK Shivpuri, chairman of MTech committee and advisor, Delhi University, the operation of nuclear reactors is coming up as an area. “For the smooth functioning of nuclear reactors, we would need people who understand reactor operations. About 54% jobs in nuclear reactors would involve people who have a deep understanding of reactor operations. Research in this area will increase in the near future.”

The focus of both ongoing and future research will be on building an effective, self-sufficient nuclear plant. Also, the areas of research would focus on aspects such as design of the nuclear plant, nuclear engineering and nuclear materials research. Making a cost-effective design that minimises health hazards is a challenge. According to Shivpuri we didn’t have access to nuclear fuel in earlier days. “As a result, only 10 to 20% of the nuclear plant’s capacity was utilised. However, now we are importing nuclear fuel from France and are in a position to utilise the full capacity of these plants,” he informs.

Nuclear engineering is another area that cannot be sidelined when it comes to research. Students and researchers will need to know what is to be done for the fabrication of a nuclear reactor. Students must be aware of the essential materials that are needed for the manufacturing of a nuclear reactor, how the nuclear plant is designed in a safe way, its maintenance and what precautions need to be taken to make working in a nuclear reactor a safe experience.

Nuclear material has also emerged as a strong research area. “Students will need to know what is a fusion reactor, how is it designed and what the challenges are. This is one area that also uses chemistry. India has one of the largest deposits of Thorium. To make a reactor self-sufficient, attention to the basic materials used in the design of the reactor, understanding nuclear fission and fusion is imperative. The Institute of Plasma Research in Ahmedabad, for example, is paving the way by using fusion technology for experiments,” says Shivpuri.

On a concluding note, he adds, “The Indian nuclear power industry is expected to undergo an expansion in the coming years because of the Indo-US nuclear deal. This agreement will allow India to engage in trade of nuclear fuel and technologies with other countries and enhance its power generation capacity. India is expected to generate an additional 20,000 MW of nuclear power by 2020. Nuclear energy is the alternative to fossil fuels (which we cannot depend on for long) and will spur our country’s economic growth.”
Resourcesat-2 launch in April

Abantika Ghosh | TNN

New Delhi: Indian Space Research Organisation (Isro) is likely to launch Resourcesat-2, a remote sensing satellite that will provide information on biophysical and geophysical parameters on the Earth’s surface, from Sriharikota Space Centre in April. Youthsat, in collaboration with Russia, and Xsat, a venture with a Singapore laboratory, are the other two satellites that will also be launched then.

The PSLV mission was earlier slated to be launched in the third week of January, which was postponed to February 24. Isro, which is still smarting under the Christmas Day disaster of the GSLV mission, decided to play it safe as scientists insisted on more tests. Consequently, the launch was called off two days ahead of the D-day. “Preparations are in last stages. Resourcesat-2 will be launched in April, but the date has not been fixed. It will be equipped with three advanced cameras that will transmit valuable geospatial data regarding biodiversity, forest cover, soil etc,” said a senior official in the department of space. Resourcesat-2 is the first Indian satellite with space-based Automatic Identification System that can provide guidance to ships in distress.
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Faster, quieter & efficient: Jets of future set to fly

READY FOR TAKEOFF: The jets, expected by 2025, will be based on the Northrop YB-49 'flying wing' aircraft of the 1950s

London: Move over, jumbo jets. Sleek jets could soon become the new travel option for fliers, thanks to US space agency Nasa which plans to introduce the futuristic aircraft latest by 2025.

Nasa has revealed designs for quiet-running, energy-efficient planes which owe their existence to the Northrop YB-49 "flying wing" aircraft designed for the US Air Force in the 1950s but never entered service, the Daily Express said.

Aerospace companies Northrop Grumman, Lockheed Martin and Boeing came up with drawings towards the end of last year. All three secured contracts from Nasa to develop and test their designs, meaning the aircraft could be taking to the skies in the next 10 years.

Nasa is, in fact, aiming to create planes that are faster, bigger, more efficient and quieter than at present. The sleek jets need to have a range of 7,000 miles at 85% of the speed of sound while carrying between 50,000 pounds and 100,000 pounds of cargo or passengers.

The Northrop YB-49 "flying wing" aircraft was developed by Northrop for the US Air Force shortly after World War II. The jet-powered Flying Wing never entered production, being passed over in favour of the Convair B-36 Peacemaker piston engine-driven design.
Has ET finally been tracked?

Nasa Scientist Claims Bacteria Found In Meteorites Are Forms Of Alien Life

London: A Nasa scientist claims to have discovered an alien life form — an out-of-this-world bacteria in meteorites which have fallen in remote areas across globe.

According to Dr Richard Hoover, an astrobiologist with Nasa’s Marshall Space Flight Centre, the alien life form could explain how life on Earth started.

He explains that travelling to Antarctica, Siberia and Alaska, he has studied an extremely rare form of meteorites — C11 carbonaceous chondrites — of which only nine are known to exist on Earth. “I interpret it as indicating that life is more broadly distributed than restricted strictly to the planet Earth. This field of study has just barely been touched — because, quite frankly, a great many scientists would say that this is impossible.”

“The exciting thing is that they (the bacteria) are in many cases recognizable and can be associated very closely with the generic species here on Earth.”

“There are some that are just very strange and don’t look like anything that I’ve been able to identify, and I’ve shown them to many other experts that have also come up stumped,” Dr Hoover said.

Dr Hoover would collect each meteorite stones and break them in lab conditions, scanning for fossilized remains. It was then he made his discovery, identifying one biological remain as having no nitrogen — something that, until now, is found in all living organisms.

“If someone can explain how it is possible to have a biological remain that has no nitrogen, or nitrogen below the detect ability limits that I have, in a time period as short as 150 years, then I would be very interested in hearing that. I’ve talked with many scientists about this and no one has been able to explain,” he said.

The findings are published in the latest edition of the Journal of Cosmology which have invited scientists across the world to review Dr Hoover’s claims.

Editor-in-chief Dr Rudy Schind said, “Given the controversial nature of his discovery, we have invited 100 experts and issued a general invitation to 5,000 scientists from the scientific community to review the paper and to offer their critical analysis.” Dr Seth Shoelki, a senior astronaut at the SETI Institute, said there is a lot of hesitancy to believe such finding. “The findings will need to undergo independent testing before they can be classified as ‘a confirmed signature of life.’”

Human cells helpful in repairing spinal cord

Human astrocyte cells, the major support cells in the central nervous system, have been found to help repair spinal injury, according to a new study. Scientists at the University Of Colorado School Of Medicine and the University Of Rochester Medical Center claim to have found an effective way to restore locomotor function through repairing a damaged nervous system with a type of astrocyte cell found in the brain and spinal cord. For the research, the scientists created two types of human astrocytes and transplanted them into rats.

Study to find if gravity's left-handed:
Is gravity left-handed? For years, physicists have been looking for a definitive answer to this question. Now scientists say it could be known by 2013. General relativity doesn't distinguish between right and left. But the quantum world may play favourites. To find out whether gravitons fall into the “ambidextrous” camp of general relativity or exhibit quantum asymmetry, a team at Imperial College London has suggested looking to cosmic microwave background, relic radiation from the big bang.
As magnetic north pole shifts, brace for chaos

Guy Adams

It sounds unlikely but it’s true: the magnetic north pole is moving faster than at any time in human history, threatening everything from the safety of modern transport systems to the traditional navigation routes of migrating animals.

Scientists say that magnetic north, which for two centuries has been in the icy wilderness of Canada, is currently relocating towards Russia at a rate of about 65km a year. The speed of its movement has increased by a third in the past decade, prompting speculation that the field could be about to “flip”, causing compasses to invert and point south rather than north, something that happens between three and seven times every million years.

Already the phenomenon is causing problems in the field of aviation. Tampa International airport in Florida has just spent a month renaming its three runways, which in common with those at most US airports are identified using numbers that correspond to the direction, in degrees, that they face on a compass. “Everything had to be changed; it was a huge project,” Brenda Geogahan, a spokeswoman for the airport, said.

The current rate of magnetic north’s movement away from Canada’s Ellesmere Island is throwing out compasses by roughly one degree every five years, prompting the US Federal Aviation Administration to re-evaluate runway names every five years.

The speed of relocation of the magnetic north pole increased significantly from about 1989, possibly because of a “plume” of magnetism deep below ground. The pole is now believed to be heading towards Siberia at the rate of about 65km each year.
US space plane takes off on secret mission

Washington: The United States air force has launched its second X-37B robotic space plane on a mystery mission.

The unmanned X-37B mini-shuttle, known as Orbital Test Vehicle 2 (OTV-2) took to the skies from Cape Canaveral, tucked away in the nose cone of a huge Atlas 5 rocket.

The launch marks the start of the X-37B programme’s second space mission. The air force’s other X-37B plane, known as OTV-1, returned to Earth in December 2010 after a similarly mysterious seven-month maiden mission.

What exactly the vehicle does while circling the Earth for so long is a mystery, since the craft’s payloads and missions are classified. China and Russia have said that the X-37B is a space weapon, but the US has claimed that the plane is for testing out new hardware for instruments. ANI
NEW DELHI: In a major legal reform, around 23,000 law graduates on Sunday appeared in the first-ever mandatory exam conducted at 44 centres across the country in 10 languages, the result of which will determine whether they would be eligible to practice as lawyers in Indian courts.

The Bar Council of India (BCI), regulator for legal profession and education in the country, which conducted the exam, said the exam was peacefully conducted throughout the country except Chennai and the result would be declared within a month.

Till now, a law degree from a recognised university or a law institute was the sole eligibility criterion for getting registered with the BCI as a lawyer, but following a Supreme Court suggestion the regulator had last year decided to make the aspiring lawyers walk an extra mile.

"The high attendance for the All India Bar Exam reflects the support and acceptance for the exam amongst the legal fraternity in the country," BCI chairman Gopal Subramanium said.

There are already more than a million lawyers in India "and we need to raise the standard of the profession", he said.

Candidates will have to score a minimum of 40 marks to qualify this exam, but there is no limitation on number of chances for a candidate to pass this test.
First-time recruiters rule the roost at B-schools

Kirtika Suneja
New Delhi, Mar 6:

First-time recruiters are leading the placement for students of B-schools. The Indian Institutes of Management like IIM Lucknow and Kozhikode, which concluded their final placements on Saturday saw new and first-time recruiters making their presence felt in their campuses.

At IIM-K, for instance, about 35% of the recruiters either participated in the placements for the first time or revisited the Institute after a gap of at least two years. More than 80 jobs were offered by the new recruiters. These companies included ADAG, Airtel, Apollo Hospitals, CRISIL, EXL, Fujitsu, Glenmark, HP, Idea and Lenovo. Others like MMTC, Mphasis, NDEEX, Videocon and Wipro Consulting too were first-time recruiters at the IIM. Similarly, niche AMCs like Nereus Capital also participated. This gives students more choice on the salary profile they are looking for. "New recruiters coming to campus is definitely a very good sign and shows the growing confidence of the industry in IIM-K," said a media cell member of IIM-K.

At IIM-L, 53 out of the 206 participating companies were first-time recruiters such as Amazon, Bloomberg, Ford, Fujitsu Consulting, Google, HP, IndusInd Bank, JFS, Lenovo, Microsoft IDC, Nereus Capital, Panasonic, Planet M, Star CJ, Subros, Tally Solutions and The Nielsen Company among others. Firms like IIMK Capital picked up students from both these campuses for the first time. So was the case with technology firms like Lenovo and Tally Solutions.

Food commodities trading firm Triton Group, which recruited for the first time from an IIM picked up five students from IIM-K which saw most of the first time recruiters coming from the sales and marketing background. "Our experience with IIM-K was excellent with the quality of candidates and the process. Will certainly increase our numbers next year," said Anuj Kumar, vice-president (Human Resources) Fujitsu Consulting India.

Even the lateral placements at IIM-L saw 25 new recruiters like Adani Group, CEB, Ford IT, HP, i3 Consulting and Info Edge. "We have witnessed 70% increase in the number of firms visiting us this year for placements. Also, exclusive roles in private equity and international trading desk were offered at IIM Lucknow," said Apoorva Gupta, recruitment coordinator, IIM-L.

Same was the case with IIM-Calcutta where first-time recruiters Essex Lake group, a global consulting firm, recruited exclusively from the institute. IM Indore comprising 238 students witnessed participation from 92 recruiters across 16 sectors with 27% of them being first timers in the likes of Boston Consulting Group, and HUL.
One theory that got shot down during the 2009 Copenhagen climate conference was that global warming is caused more by sunspots than by man-made factors. Solar energy striking the Earth does increase when the Sun sports more spots, which mean increased solar activity. But most scientists, including those at Nasa, agree that solar energy hasn’t trended upward enough to outdo the impact of human CO₂ emissions over the last century. On the other hand, it becomes more important by the day to understand and predict solar energy variations. Because these variations affect space weather, which in turn impacts the satellites that anchor so much of modern life—from communications to cropping patterns, ATM machines (GPS is involved in other financial transactions as well) to plain holiday pilotage. There is also the air traffic factor: polar routes are shorter and safer but must be avoided during heightened solar activity, which can knock out electricity grids too. Plus, better predictions require better understanding. One thing we have known since 1843, thanks to German astronomer Heinrich Schwabe, is that sunspots come and go in cycles of around 11 years. Except, during the most recent solar minimum, the Sun went spotless for an unusually high 780 days, during 2008-2010. This was puzzling and alarming.

Using computer simulations, Dibyendu Nandy (Indian Institute of Science Education and Research, Kolkata), Andrés Muñoz-Jaramillo and Petrus Martens have solved this mystery. It seems that the ‘conveyor belt’ that intermittently sweeps sunspots for recharge in the bowels of the Sun sped up beginning in the late 1990s, allowing fewer of them to surface above the hidden production line. But as confirmed by the solar flare last month, a solar maximum is decisively under way now. A similar event back in 1938 had people calling up the fire brigades. In 1857, some buildings and telegraph wires caught fire. We were luckier this time. The Earth’s magnetic field storm happened to be aligned parallel to that of the flare. But luck won’t always be on our side. Unusual increases or declines in solar activity can have potentially titanic consequences. In what’s called the Maunder Minimum between 1645-1715, Europe experienced the Little Ice Age. Winter became longer, growing seasons shorter. Famines were widespread. On the trans-Saharan caravan route, the Niger River saw the kind of flooding for which there are no matching records from before or after. It is this that makes the work that Nandy and company are doing critical. A better tracking of changes in solar activity and better predictions about its consequences will help us develop better shields.
So, is the MBA obsolete...

The world is more complex today than ever. Is the MBA still a good way to prepare business leaders?

Martha Maznevski

Much has been said about the role of greed in creating our present financial crisis. Indeed, many managers were motivated to get the most for themselves in the short term. But most managers were simply unprepared to anticipate the impact of their decisions in a more complex world. Often overlooked, the economic downturn of the last couple of years was also a crisis of naiveté. Whether MBA programmes can teach ethics and responsibility is already in doubt. Are MBA programmes up to the bigger challenge of developing leaders who can manage complexity as well?

Today's complexity comes from enormous levels of interdependence, variety and flux. Flows of financial capital and goods move relatively freely—what happens in one place increasingly impacts other locations. House prices in the US influence interest rates in Europe, which influence the price of exports and companies' ability to invest in capital expenditure. China's growth influences commodity prices globally, which re-distributes jobs and ancillary industries from Australia through Africa and into the Americas. Variety is created by advances in communications and technology. Supply chain logistics involve companies among almost infinite combinations of manufacturing, assembling and transporting from one to different locations. Workforces are more diverse; and multi-functional, cross-boundary teams increase the variety even in how we work. The combinations of interdependence and variety are constantly in flux, so even if you understand and optimise today, the best actions tomorrow might be different.

Recent findings on leadership development are discouraging for typical MBA programmes in this ever more complex world. To build knowledge and skills that 'stick' and lead to effective performance, experience and learning on the job are much more important than 'academic' book or class learning. To create tacit knowledge—knowledge about how things work in context—you need experience. For executive development, companies are moving actively back to the old notions of apprenticeship and mentorship.

However, we must take this research with a grain of salt. If it were just about experience, then every manager with experience would be able to lead in complexity. And we know that is not the case. Formal learning processes can provide a significant multiplier for the experience effect by connecting knowledge and action in two important ways. First is to connect them in cycles, with knowledge leading to planning and action, then observation of what happened leading to reflection and more knowledge. We've known this classic learning cycle since the advent of cognitive and developmental psychology in the mid-20th century. The more complex the knowledge, the more important it is to go through these cycles actively. The second multiplier comes from engaging in learning cycles that are systematically different from each other in terms of context, not just the same context over and over again. Learners need to compare across contexts to develop a repertoire of knowledge and skills that are universal (work across contexts), contingent (dependent on the context), and the critical ability to differentiate what's universal from what's contingent.

If MBA programmes are to develop judgement and the ability to manage complexity for sustainable impact, they must incorporate these two learning principles for connecting knowledge and action. Sitting in a classroom is useful only when it prepares learners for action, and action should be connected with reflection and further formal knowledge-building. From day one, MBA programmes should therefore incorporate real-life experiences, such as real-impact projects with companies, integrating them into the curriculum rather than having them as standalone courses (or worse, electives). Moreover, MBA programmes should include many such experiences, and should structure them to cover a spectrum of company sizes and stages, industries, and economic and cultural contexts. The programme should help learners compare and contrast their different experiences, developing the ability to read situations and draw from a repertoire of responses. A real MBA should in essence mean "guided on the job leadership training." Incidentally, these principles are important not just for developing the ability to manage complexity, but also to address those elusive leadership attitudes and values such as ethics and responsibility. Leading with courage and integrity in tough situations occurs as a result of having faced those situations and reflected on them through dialogue. We learn to lead others effectively by working through difficult processes with people who are different from us. And we learn best how to lead change with informal influence by engaging in these processes actively and observing the results. In fact, using experiential learning principles to address these two sets of 'soft skills'—leading responsibly and managing in complexity—at the same time, develops leaders who can make wise choices and can implement them successfully.

These principles are not easy to implement in formal, structured learning environments. By integrating action learning throughout an MBA programme, you open it up to loss of control and unpredictability. What if the company doesn't cooperate? What if students don't do a good job? What if our contact changes, and the new person doesn't want to work with us? What if their timing is different from ours? Live companies and managers are notoriously more difficult to manage than textbooks and cases are, and as professors we prefer to have our knowledge tied up neatly.

If the MBA is not to become obsolete, it must be structured to match the needs of the new, complex environment. We must embrace the same level of complexity within our schools as we see in the environment, and we must learn to open ourselves up as real cases and examples. If business schools are prepared to live what we teach, then MBA programmes can become even more valuable. The opportunity is enormous—if we do build these principles into our programmes, we develop leaders who make a positive difference to our future. Isn't it worth it?

The author is IMD Professor and director of IMD's MBA programme.
Deloitte Top Recruiter at IIM Kozhikode

SSANANDAKUMAR KOCHI

Deloitte and ICICI Bank have emerged as the largest recruiters at the IIM Kozhikode final placement 2011 with both the firms making 16 offers each. The highest domestic compensation offered stood at ₹32 lakh per annum. The offer was made by a Europe-based investment bank.

IIM Kozhikode completed the final placements for 2011 for a batch of 290 students on March 3 maintaining its 100% placement record. The highest international package this time was $150,000, a statement issued by the Institute said.

A total of 110 firms participated in the placements this year. The number of offers per company registered a significant jump to 3.43 from 2.66 last year.

About 35% of the recruiters either participated in the placements for the first time or revisited the institute after a gap of 3 years. Finance emerged as the most preferred vertical with close to 33% of the students opting for it. Marketing and operations was selected by 26% of the students while consultancy firms were preferred by 24% of the students.

Interestingly, while the average salary remained more or less constant in the consultancy sector, there was a jump 18% in the Indian financial institutions, 16% in the IT sector, 15% on the HR sector.

Some of the students were offered senior management roles while a few have decided to pursue their own entrepreneurial ideas. One student joined an NGO working in the area of microhealth insurance.
IIT placements back to pre-recession levels

SWATI GARG
Kolkata

It's not only the B-schools which are drawing companies on campus. Improved global recovery has brought the companies back on the campuses of Indian Institutes of Technology (IITs), too.

So unlike the past two years when IITs feared achieving 100 per cent placements and prompted their students to take up higher studies due to lack of jobs, this year they have placed around 80 per cent of the batch sizes, already. This is after making headlines for receiving record salary offers.

"Overall the sentiment has been more positive. Companies have been bullish both in terms of making offers and presenting the salary packages. In fact, it would not be incorrect to say that offers are better than those made pre-recession," said SK Srivastava, professor-in-charge, training and placement, IIT-Kharagpur.

IIT-Kharagpur began its placements in the last week of December 2010 and recorded the highest pay package of about $1.35 lakh made by Facebook.

Till the last week of February, more than 600 companies visited the campus, and made over 1700 offers. This, against 360 offers made during the same period last year. "With 80 per cent of students currently placed, things seem to be on the upswing.

For departments which did not see full placement last year, they have already seen 100 per cent placement," Srivastava said.

Ditto with IIT-Bombay which as compared to last year, received more number of offers this year. The institute invited more number of companies on campus this year.

The placement season which is still on, has seen participation from over 200 companies across technology, research and development, public sector, financial services, engineering and processing along with education related sectors.

"In general we have observed a 15 to 20 per cent increase in salary across all sectors as compared to last year. With the increase in packages observed last year, the current packages are generally better than those offered during the pre-recession period," said Ravisharma, professor-in-charge, placement, IIT-Bombay.

At IIT-Madras, 80 per cent of students have currently been placed, no mean feat considering that the placement season is still a month from being over. The average salary for an IIT-Madras graduate is at 75.5 lakhs.

"The highest salary this year stands at 38 lakh so far, with the primary recruiters coming from information technology (IT) companies like Google and Facebook, along with consultancies like McKinsey," said N R Babu, advisor, training and placement, IIT-Madras.

Incidentally, at IIT-Madras too, departments which normally lag in terms of placements, by way of both offers and size of packages, have done well this time around. Salary levels have picked up more than 25-30 per cent.

A voice of dissent amidst placement related elation came from IIT-Roorkee, which despite witnessing a rise in overall number of visiting companies has not seen a phenomenal change in salaries offered.

"The highest salary of about 40 lakh is comparable to last year's packages. While saying that things are back to pre-recession would be over-stepping the line, one can hope that the increase in number of visiting companies will translate into better packages soon," said PK Jain, professor and co-ordinator, training and placement cell, IIT-Roorkee.
MBBS AT IIT KARAGPUR

The Budget grant of ₹200 crore will help the premier technology institute achieve its long standing ambition of opening a medical college

SWATI GARG
Kolkata

When Finance Minister Pranab Mukherjee announced a grant of ₹200 crore to the Indian Institute of Technology-Kharagpur (IIT-Kgp) in his Budgetary speech, he facilitated more than just infrastructure upgrade at the institute.

The grant will help IIT-Kgp kick off its long standing ambition of opening a medical college, albeit in a staggered manner.

Though the institute says the fund allocation of ₹200 crore is a fraction of the ₹500 crore that it had asked for, it does admit that the same would help it venture into the field of medical and life sciences research.

"The fund allocated by the Finance Minister will be used for research on nano and life sciences, along with initiatives on water resource management," said AK Majumdar, deputy director, IIT-Kgp.

The IIT administration is set to re-submit a proposal allowing the passage of the parliamentary statute. IIT-Kgp would need an investment in excess of ₹500 crore for the proposed medical school. In 2009, the institute had signed a Memorandum of Understanding with the University of California, San Diego, as a partner for its 350 to 800-bed medical college.

"While we have started ground work on the medical school, the Budget grant will not see direct support for the school as parliamentary amendment to the statute allowing a medical course at IIT is still pending. We submitted a proposal of ₹500 crore grant for research, of which ₹200 crore has been allocated," Majumdar explained.

Majumdar added that the speed with which ground work has started, is to facilitate the parliamentary amendment. Without evidence of initial preparations, the amendment will not see light of the day. IIT-Kgp, established in 1951, has more than 9000 students at present.

IITs are not allowed to provide medical education without an amendment to the constitutional role they have so far been prescribed to play.

"The medical school, if and when it starts, will focus on specialisation in one area. Initially we are looking at starting the school with around 150 students, which means that there will be scope for about 800 beds," he said.

For funding of the proposed medical school, IIT is eyeing further grants, contribution from alumni along with private investment.

The Indian Institutes of Technology last September, received a nod from the IIT Council to teach medicine. Barring IIT-Kgp, none of the IITs have plans to venture into full-time medical education. For IIT Bombay and IIT Kanpur, medical education does not figure on the agenda for the next five years, at least. IITs had earlier told Business Standard that starting medical education is too far fetched and they would indeed be happy offering inter-disciplinary courses in medicine and engineering.

"Given the fact that IITs neither have the funds nor the expertise to expand in medical education, it makes sense we do what we have been doing, IIT-Kgp due to its remote location, needs a good medical facility. IIT Council's move to allow IITs to teach medicine will benefit IIT-Kgp more than any other IIT," an IIT director told Business Standard.

Other IITs say they would instead prefer delivering post graduate courses in some specific areas applying technology or train doctors in the use of biomedical engineering or applications.
Indian Institute of Management Calcutta (IIM-C) and Hughes Global Education have launched Executive Programme in Financial Risk and Investment Management.

The programme will use high frequency live data from Indian and global financial markets using Bloomberg. All sessions beamed through the Hughes' satellite platform will be held from the IIM Calcutta finance laboratory.

The programme has been designed for executives in banks and financial institutions, insurance companies, KPO, asset management companies, investment banking companies etc.

The classes will be conducted twice a week and fee for the programme is ₹2.10 lakh.

The programme is divided into 12 modules covering topics like — mathematics, statistics and probability, financial econometrics, corporate finance, investment management, knowledge of financial institutions and markets, financial modelling, knowledge of options, futures and other derivatives, risk management in banks & financial institutions, accounting and taxation for financial instruments and corporate governance.
AICTE SHUTS DOOR ON PART-TIME MBA COURSES

Many offer other programmes on the pretext of part-time MBAs

KALPANA PATHAK
Mumbai, 6 March

It's curtains for part-time management courses in business schools approved by the All India Council for Technical Education (AICTE).

The country's technical education regulator has said it will "not permit any technical education programme to be run as either evening or part-time programme in any technical institution".

According to a senior AICTE official, this means the council will not approve new part-time MBA programmes or allow fresh admissions in existing ones from the next academic year. B-schools have to apply to AICTE every year for renewing their part-time programmes.

"Many B-schools are misusing the facility and running other programmes on the pretext of a part-time MBA programme. They are not working within the regulated framework, which prompted us to take this step," said a senior AICTE official.

Experts from the sector said the move could affect around 400 colleges and 20,000 students. These figures could not be verified with AICTE. Several calls to AICTE Chairman S S Mantha went unanswered.

There are around 2,500 AICTE-approved management schools.

The B-schools concerned are unhappy. "Experienced people learn management much better than freshers. We have around 240 students for masters courses in management, finance, human resource and information management. We have already requested the vice-chancellor of the University of Mumbai to take up the matter with AICTE," said Suresh Ghal, director, K J Somaiya Institute of Management and Research.

A clutch of management institutes in Mumbai are planning to file a public interest suit in the Bombay High Court.

"AICTE, in a bid to clean the mess in management education, is penalising good institutes as well. We know that part-time MBA programmes are meant for experienced professionals and many institutes are admitting fresh graduates instead to make money. But AICTE could have clamped down on such institutes. With this move, genuine students will suffer," said Premchand Palety, the chief executive of Centre for Forecasting and Research, an organisation that does annual ranking of B-schools.

The directors of three B-schools said this would make higher education unaffordable and prevent growth and development of many working professionals.

Internationally, such courses are conducted after office hours.

According to a human resource director of a textile company, part-time management programmes allow employees to add knowledge.

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