

# News from here and there

---

## Nobel prizes for 2021 awarded to researchers for work on receptors for temperature and touch

The 2021 Nobel Prize in Physiology or Medicine was announced on 4 October 2021 by the Nobel Assembly at Karolinska Institutet, Stockholm, Sweden. It was jointly awarded to David Julius and Ardem Patapoutian 'for their discoveries of receptors for temperature and touch'.

Both these researchers have earlier been joint recipients of the Lewis S. Rosenstiel Award for Distinguished Work in Basic Medical Research in 2019 as well as the Kavli Prize in Neuroscience in 2020. David Julius, an American physiologist at the University of California, San Francisco, has also been the recipient of the 2010 Shaw Prize in Life Science and Medicine and the 2020 Breakthrough Prize in Life Sciences.

Julius, along with his fellow researchers, isolated the gene that elicits the burning sensation one feels when one comes in contact with capsaicin in chili peppers. It has been established for long that capsaicin activates nerve cells and causes pain sensations, but Julius' studies identified the gene that specifically encoded a novel ion channel protein for the capsaicin receptors. Additional investigations showed the protein's ability to respond to heat, thereby displaying that the newly discovered heat-sensing receptor was activated at temperatures that were perceived as painful. This was named TRPV1 (the so-called wasabi-receptor).

Professor Ardem Patapoutian, Department of Neuroscience, Howard Hughes Medical Institute, Maryland, USA is an American molecular biologist and neuroscientist. He used the chemical substance 'menthol' to identify TRPM8, a receptor that has been shown to be activated by cold. His key discoveries also include identification of ion channels known as Piezo1 and Piezo2; these ion channels convert mechanical force into neuronal signals, and hence influence the body's responses to changes in temperature, blood pressure and urination reflexes, which result from stretching and the perception of pain.

Additional ion channels related to TRPV1 and TRPM8 have now been recognized and found to be activated by a range of temperatures. These 'molecular thermometers of the human body' and their antagonists, are currently under evaluation in phase I clinical studies.

MAHARRA HUSSAIN, *United Arab Emirates*

## Ig Nobel awards for 2021

The 2021 Ig Nobel Prizes were awarded at the 31st Annual Ig Nobel Prize ceremony on 9 September 2021 in an event that was webcast. (Regular readers of the *Natl Med J India* would be aware that this is awarded for research that makes people laugh and then think. The November–December issues of the *Journal* for the past decade contain information on the winners for each year.)

The Ig for Medicine was awarded to otolaryngologists in Germany and the USA for their pathbreaking finding that an

orgasm 'can improve nasal breathing to the same degree as application of nasal decongestant for up to 60 minutes in patients having nasal obstruction' (Bulut OC, Oladokun D, Lippert BM, Hohenberger R. Can sex improve nasal function?—An exploration of the link between sex and nasal function. *Ear, Nose Throat J* 2021 Jan 4;145561320981441. doi: 10.1177/0145561320981441. Epub ahead of print).

The Ecology award was conferred on Leila Satari, Alba Guillén, Ángela Vidal-Verdú and Manuel Porcar from Spain for their genetic analysis of bacteria growing in discarded wads of chewing gum stuck to pavements, in various countries. Researchers from USA—Ethan Beseris, Steven Naleway, and David Carrier—earned the 2021 Ig Nobel Peace Prize for evaluating their thesis that humans learnt to grow beards to protect themselves from direct violence to the face. The Ig Nobel Economy award for 2021 was jointly shared by France, Switzerland, Australia, Austria, Czech Republic and the UK for the research done by Pavlo Blavatsky, who proposed that the obesity of a country's politicians may be a good indicator of that country's corruption. Other honourable mentions included Susanne Schötz, Robert Eklund, and Joost van de Weijer's Ig Nobel award in Biology for their analysis of purrs, growls and hisses used by cats to communicate with humans while American researchers John Mulrennan Jr Roger Grothaus, Charles Hammond and Jay Lamdin, for their research into novel methods to control cockroach populations on submarines, which secured them the 2021 Ig Nobel in Entomology.

SANJAY PAI, *Bengaluru, Karnataka*  
MAHARRA HUSSAIN, *United Arab Emirates*

## Healthcare in India enters the digital age

The Ayushman Bharat Digital Mission (ABDM) was launched by the Government of India on 27 September 2021, with a vision to create a seamless online platform that will enable interoperability within the digital health ecosystem. Ayushman Bharat is a flagship scheme of India that was launched as recommended by the National Health Policy 2017, to achieve the vision of Universal Health Coverage (UHC).

Similar to Jan Dhan, Aadhaar and Mobile (JAM) trinity, the ABDM creates a seamless online platform with the provision of a wide range of data, information and infrastructure services. This will enable open, interoperable, standards-based digital systems at the same time ensuring security, confidentiality and privacy of health-related personal information. The ABDM will enable access and exchange of longitudinal health records of the beneficiaries with their consent.

The key components of the Mission include a health ID for every citizen; a healthcare professionals registry (HPR) and healthcare facilities registries (HFR). The health ID (Ayushman Bharat Health Account [ABHA] Number) can be generated through a mobile phone number or Aadhaar number by self-registration on the portal or by downloading the ABDM Health Records app on a mobile phone. The health ID will also work as

a health account, to which personal health records can be linked and viewed (with the help of a mobile application). The beneficiary will also have to set up a personal health records (PHR) address for consent management, and for future sharing of health records. The PHR address is a self-declared username, with which the beneficiary is required to sign into a Health Information Exchange and Consent Manager (HIE-CM); multiple consent managers are likely to be available for patients to choose from in the near future.

The ABDM does not store any of the health records of the beneficiaries. The health records are stored with the respective healthcare information providers as per their 'retention policies'. These are 'shared' over the ABDM network 'with encryption mechanisms' only after beneficiary provides consent. The HPR and HFR will act as a repository of all healthcare providers across both modern and traditional systems of medicine. Users

can permanently delete or temporarily deactivate their health ID.

As a part of the Mission, the ABDM Sandbox, will act as a framework for technology and product testing. This will facilitate organizations (including private operators) intending to be a part of the National Digital Health Ecosystem become a Health Information Provider or Health Information User or efficiently link with building blocks of ABDM. The ABDM facilitates equitable access to quality healthcare as it encourages the use of technologies such as telemedicine, and enables national portability of health services. It is a leap forward with the potential to increase the ease of living along with simplifying the administrative procedures in hospitals.

ALLADI MOHAN, *Tirupati, Andhra Pradesh*  
<https://orcid.org/0000-0002-3214-9884>

---

*The National Medical Journal of India* invites contributions to the '**News from here and there**' section. We are particularly interested in getting newswriters from the north and northeast regions of India as well as from other countries.

By news, we refer to anything that might have happened in your region which will impact on the practice of medicine or will be of interest to physicians in India. The emphasis of the news items in this column, which are usually of 200–450 words, is on factual reporting. Comments and personal opinions should be kept to a minimum, if at all. Interested correspondents should contact SANJAY A. PAI at [sanjayapai@gmail.com](mailto:sanjayapai@gmail.com) or [nmji@nmji.in](mailto:nmji@nmji.in)