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Pneumonia and Diarrhoea Progress Report

- Recently, the International Vaccine Access Centre (IVAC) has released the latest annual Pneumonia and Diarrhoea Progress Report (PDPR).
- It is an annual report which tracks progress towards 10 key indicators in the 15 countries with the highest mortality burden of pneumonia and diarrhoea in children under 5.
- The report tracked progress by analysing 10 indicators from the latest available data on how countries are delivering key interventions to prevent pneumonia and diarrhoea deaths, this includes

1. Breastfeeding & Immunisation,
2. Care-seeking & Antibiotics,
3. Oral rehydration solution (ORS),
4. Zinc supplementation,

- Key highlights of the recent report are as follows

1. Pneumonia continues to kill more children under five worldwide than any other single infectious disease.
2. Diarrheal diseases which is the second leading infectious cause of death of children under 5, claimed the lives of 437,000 young children.
3. Globally, over 1.23 million children died of pneumonia and diarrhoea before reaching their 5th birthday which is equivalent of over 141 child deaths per hour or 3,400 deaths per day.
4. India failed to reach all four targets for treatment, adding that the treatment for diarrhoea had the lowest coverage, with only 51% of children receiving ORS and 20% getting zinc.
5. India has achieved the global target of 90% coverage for three of the five vaccines whose coverage is monitored in the report, The vaccines are

a. Diphtheria,
b. Pertussis and Tetanus (DPT) vaccine,
c. Measles-containing-vaccine first dose,
d. Haemophilus influenza type B,
e. Pneumococcal conjugate vaccine (PCV),
f. Rotavirus vaccine.

Global Prevention Coalition

- Global Prevention Coalition (GPC) is a global coalition of United Nations Member States, donors, civil society organizations which was established in the year 2017 to support global efforts to accelerate HIV prevention.
- It includes the 25 highest HIV burden countries, UNAIDS Cosponsors, donors, civil society and private sector organizations.
- It aims to strengthen and sustain political commitment for primary prevention by setting a common agenda among key policy-makers, funders and programme implementers.
- Recently, the Union Minister for Health and Family Welfare digitally addressed the Ministerial meeting of the Global Prevention Coalition (GPC) for Human immunodeficiency virus (HIV) Prevention.
- It was hosted by Joint United Nations Programme on HIV/AIDS (UNAIDS) and United Nations Population Fund (UNFPA) on behalf of the Global HIV Prevention Coalition (GPC).

Param Siddhi

- Recently, Param Siddhi has achieved global ranking of 63 in TOP 500 most powerful non-distributed computer systems in the world.
- Param Siddhi is the high performance computing-artificial intelligence (HPC-AI) supercomputer established under National Supercomputing Mission (NSM).
- It is installed in the Centre for Development of Advanced Computing's (C-DAC) unit.
- The AI system will strengthen application development of packages in areas such as advanced materials and computational chemistry & astrophysics.
- The National Super Computing Mission (NSM) is rapidly boosting high power computing in the country through its various phases to meet the increasing computational demands.
- These super computers are used by academia, researchers, MSMEs, and startups in areas like oil exploration, flood prediction as also genomics, and drug discovery.
- The highlight of the NSM is to build more Peta Flops, High-Performance Computing (HPC) Facilities with convergence of Artificial Intelligence (AI).

Other Super Computers of India are

- **Pratyush -** It is a supercomputer used for weather forecasting at the Indian Institute of Tropical Meteorology, Pune.
- It is the 4.O Peta flops (PF) high performance computer.
- It was ranked 78th on the November edition of the list.
- **Mihir -** It is installed at the National Centre for Medium Range Weather Forecast in Noida.
- It was ranked 146th on the November edition of the list.
- **Param Super Computers** and its locations

1. PARAM Shivay - IIT-BHU
2. PARAM Shakti - IIT-Kharagpur
3. PARAM Bhrahma - Indian Institute of Science, Education and Research (IISER), Pune.

Direct Energy Weapons

- Microwave Weapons are supposed to be a type of direct energy weapons, which aim highly focused energy in the form of sonic, laser, or microwaves, at a target.
- These weapons are based on the principle that microwave radiation of a certain kind can cause a buzzing sensation in the head, due to a phenomenon known as the Thermo Elastic effect.
- Such a weaponized microwave beam may cause a very slight expansion of the brain and produce a sound-like pressure, which strictly speaking is not really sound but can be traumatic.
- Broadly speaking, DEWs are of two types

1. **High-energy lasers -** These laser weapons can knock off rockets and missiles at the speed of light
2. **High power microwaves -** These weapons can use an electromagnetic explosion to take out the entire communication network of the enemy and destroy its electronic equipment.

- While they both comprise radio waves and light waves, lasers have shorter wavelength and higher frequency while microwaves have longer wavelength and low frequency.
- The idea behind both is to use powerful energy beams to hit targets (and in some cases destroy them) without much collateral damage.
- DEWs can inflict a wide variety of damage on an individual including dizziness, nausea and convulsions.
- The pain and severity of repercussions can be increased by changing the frequency.

- Recently India has denied reports that Chinese forces at the LAC used microwave weapons against Indian troops in eastern Ladakh.

Microwave weapon capabilities of Different countries include

1. **Poly WB-1 -** China had first put on display its "microwave weapon", called Poly WB-1, at an air show in 2014.
2. **Active Denial System -** The United States has also developed a prototype microwave-style weapon, which it calls the "Active Denial System".
3. **Anti-Drone DEW Systems** - India's DRDO has developed two anti-drone DEW systems, and plans are afoot to invest in DEW tech in a big way.

Guillain Barre Syndrome

- Recently some patients infected with Covid-19 have been found suffering from Guillain Barre Syndrome (GBS).
- Guillain Barre Syndrome is a very rare autoimmune disorder in which the patient's immune system attacks nerves.
- The exact cause of Guillain-Barre syndrome is unknown, but as per the World Health Organisation (WHO), GBS is often preceded by an infection.
- This could be a bacterial or viral infection.
- It may also be triggered by vaccine administration or surgery.
- In the past, patients of Middle East respiratory syndrome (MERS), Zika virus, Human Immunodeficiency Virus (HIV), Herpes virus and Campylobacter jejuni have shown symptoms of GBS.
- Symptoms of GBS include - Weakness or tingling sensations, which usually start in the legs, and can spread to the arms and face.
- Difficulty with facial movements, including speaking, chewing or swallowing.
- Double vision, rapid heart rate, low or high blood pressure.
- Complication will leads to respiratory failure as the worst outcome, or weakness and effect on walking and limb movement.
- Intravenous immunoglobulin (IVIG) and Plasma therapy can be used as treatments

Herpes Virus

- Herpes results from infection with the herpes simplex virus (HSV).
- It causes sores or blisters to form in or around the mouth or genitals.
- Other symptoms incudes fever and fatigue.

Campylobacter Jejuni

- Campylobacteriosis is an infection by the Campylobacter bacteria. It is more commonly known as C. jejuni.
- It is among the most common bacterial infections of humans, often a foodborne illness.
- It produces bloody diarrhea or dysentery syndrome, mostly including cramps, fever and pain.

Sarna Religion

- Recently Jharkhand government has passed a resolution to recognise Sarna religion and include it as a separate code in the Census of 2021.
- The holy grail of the faith is "Jal, Jungle, Zameen" and its followers pray to the trees and hills while believing in protecting the forest areas.
- It is believed that 50 lakhs tribal in the entire country put their religion as 'Sarna' in the 2011 census, although it was not a code.
- Many of the tribals who follow this faith have later converted to Christianity, the state has more than 4% Christians most of whom are tribals.
- The population of Sarna tribals in the state has declined from the 38.3 per cent in 1931 to 26.02 per cent in 2011.
- One of the reasons for this was tribals who go for work in different states not being recorded in the Census, in other states they are not counted as Tribals.
- The separate code proposed by the state government will ensure recording of their population.
- If the Centre approves the new Sarna code, Census 2021 would have to make space for a new religion.
- Currently, citizens can choose from only six religions: Hinduism, Islam, Christianity, Sikhism, Buddhism and Jainism.

Source: PIB, the Hindu, Indian Express

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