Benchmarking Healthcare System

The **right to health** has so far **not been accorded** the **status of a Fundamental Right** to the Indian citizens. It is not even a statutory right, unlike education.

Policy Sphere

- **Health is a State subject** as per our Constitution. About **two-thirds of the total governmental expenditure** on health coming from the **State Governments** and the balance one-third being provided by the Government of India.
- Despite this, the **Central Govt. has significant influence in the policy space** with pathbreaking schemes such as the National Health Mission, Ayushman Bharat and Pradhan Mantri Jan Arogya Yojana.
- India is also a **signatory** to the **2030 Agenda for Sustainable Development**, whereby it has committed as a nation to "ensure healthy lives and promote well-being for all".

Benchmarking: Addressing The Variations Across States

- There are huge variations across States in their health outcomes and health systems' performance.
- In order to address the issue of variations across the states, **NITI Aayoga**, in collaboration with the Ministry of Health and Family Welfare and the World Bank, has **crafted a Health Index**.

About The Index

- It is the **first ever systematic exercise** for tracking the progress on health outcomes and health systems' performance across all the States and UTs on an annual basis.
- The Health Index is a **weighted-composite Index** based on **select indicators in three domains**: a) Health Outcomes; (b) Governance and Information; and (c) Key Inputs and Processes, with the health outcomes carrying the most weight across the different category of States/UTs.
- For generation of ranks, the **States are classified into three categories** (Larger States, Smaller States and UTs) to ensure comparability among similar entities.
- A **range of indicators** such as the **neo-natal mortality rate** (deaths occurring in the first 28 days of life), **full immunisation coverage**, treatment success rate of confirmed tuberculosis cases, stability administrators, of tenure of key vacancy of doctors and specialists in health facilities, and functionality of primary health centres, first referral units and cardiac care units, are included in the Index.
- In February 2018, the **first round of the Health Index report** on ranks and scores was released.

Benefits

- The index will **propel States towards undertaking multi-pronged interventions** and drive efforts towards achievement of SDG Goal 3.
- The State Governments **will be able to identify parameters** in which States have improved, stagnated, or declined.
- An analysis of this can help States in focusing attention on better targeting of interventions and improving the delivery of health services and **also an opportunity of sharing best practices**.

Room For Improvement

- Health Index (June 2019) report on ranks of States and UTs indicates, even Kerala, Mizoram, and Chandigarh, the "healthiest" among large states, small states and UTs respectively, all have **quite a distance from the frontier and have room for improving** their performance.

- The Index is an innovative tool as it **not only fosters competition among states** by comparing similar states to each other but also **nudges them to better their own performance in the previous year**.

Scope For Improvement

- Based on the composite Health Index scores range for the reference year (2017-18), the States are grouped into **three categories**: **Achievers, Aspirants, and Front-runners**.
- Aspirants are the **bottom one-third States** and six of the eight Empowered Action Group States fall in this category. Given the substantial scope for improvement, these States require concerted efforts.
- **Achievers** represent the middle one-third States.
- **Front-runners**, the States falling in top one-third score range are the best performing States.

Shake Complacency And Nurture Hope

- It is envisaged that tracking progress on incremental performance will **also help shake complacency among "Healthiest Large States**" such as Kerala, Punjab, and Tamil Nadu that have historically done well.
- At the same time, it will **nurture hope and optimism among large states** such as Haryana, historically lagged in performance.

Variable Progress Across States Towards Achieving SDG Goals

- Several States have made good progress towards achieving SDG goals included in the Index.
- Kerala and Tamil Nadu have already reached the 2030 SDG goal for **Nuclear Magnetic Resonance (which is 12 neonatal deaths per 1000 live births)**.
- Maharashtra and Punjab are also close to achieving the goal. Kerala, Tamil Nadu, Maharashtra and Punjab have already achieved the SDG goal on Under-Five Mortality Rate, which is 25 deaths per 1000 live births.

Incentivising Incremental Performance

- The Health Index can shift the focus from budget spends, inputs and outputs to outcomes by **shining the light on States that have shown most improvement**.
- The MoHFW's decision **to link the Index to incentives under the National Health Mission** sends a strong signal to States in the shift towards outcome based monitoring and performance linked incentives.
- In 201920, it was **decided to link 70% of the NHM incentives** to the incremental performance of the states and UTs on the Health Index.

Need For Improving Data Quality

- The process highlighted the large gaps in data availability on health outcomes and health systems performance.
- The need of the hour is to **make outcome data available for smaller states** and UTs more frequent and updated outcomes for non-communicable diseases, financial protection, and other priority areas, and the robust programmatic data that can be used for continuous monitoring.

Conclusion

- The **critical factors** that contributed to the success of the Health Index include: a) Timelines of the report so that it stimulates action; b) Provision of financial incentives based on the annual incremental

performance of states under the National Health Mission; and; c) Verification of self-reported data by states by a third party.

- However, there are **limitations to the Index as no single index** can purport to comprehensively capture the complex story of evolution of health system.
- Also, due to constraints of availability of quality data critical areas such as non-communicable diseases, mental health, and private sector service utilisation could not be captured.
- Thus, the **Health Index is a work in progress** and continuous refinements will be made as additional quality data becomes available and data systems improve.

COVID-19: The Novel Threat

What Are Viruses

- Viruses are on the **borderline of living and dead beings**. They are much tinier than bacteria.
- Viruses are host **cell-dependent particles**, they use host cell machinery to build their structure. That is why, specific antiviral drugs which don't damage host cells are very limited.
- Mutations occur during every viral infection, either spontaneously or may be induced with chemicals or physical agents. A hybrid or recombinant virus will have new genes and new characteristics as well.

Corona Viruses

- All Coronaviruses are **large (120-160 nm) enveloped RNA viruses** which have single stranded genome.
- The virus **possesses a club shaped or crown like peplomer spikes** giving appearance of solar corona. High rates of genetic mutations are shown by the corona viruses. Most of these infect animals and birds.
- **Human infection is caused by only those which can adapt to human conditions**. There are already known **six corona viruses** involved in human infections.
- In **2003 there was an outbreak of SARS-CoV** (Severe Acute Respiratory Syndrome coronavirus). It **originated from China**. The **sourc**e was believed to be monkeys, raccoon dogs, cats and rodents.
- MERS-CoV (Middle East Respiratory Syndrome coronavirus) emerged in 2012. First reported from Saudi Arabia; the source was thought to be **camels and bats**.

COVID 19

- It represents **CO**rona **VI**rus **D**isease originated in 2019. First case of this virus was identified in December 2019 from Wuhan, Hubei province of China.
- WHO declared the 2019-20 coronavirus outbreak, a **Public Health Emergency of International Concern** (PHEIC) on 30 January 2020 and a **pandemic on 11 March 2020**.

Challenges Due To COVID 19

- It is a novel virus, **very little is known** about it. The **transmission rate** of SARS-CoV-2 is **higher than SARS-CoV** and the reason could be **genetic recombination**.
- Asymptomatic carriers as well as convalescent individuals can transmit the virus. No age group is spared. The progression of the disease is very unpredictable.
- **Mortality rates are very high** in some parts of the world compared to others.

Transmission

- There are two main routes of transmission: **respiratory and contact**. The virus is mainly spread by small droplets produced by coughing, sneezing or even talking to an infected person.
- People may also become infected **by touching a contaminated surface** and then their face. The virus can survive on surfaces for a few hours to a few days, depending upon the nature of surface.
- Spread is possible before symptoms appear and in later stages of the disease as well. That makes it more dangerous.
- There have been **no reports of fecal−oral transmission** of the COVID-19 virus.

Clinical Outcome

- Common symptoms include fever, cough (mostly dry cough) and shortness of breath. Other symptoms may include fatigue, muscle pain, diarrhea, sore throat, loss of smell and abdominal pain.
- While the majority of cases result in mild symptoms (about 80%), some progress to viral pneumonia and multi-organ failure.
- Older people and people with other medical conditions (such as asthma, diabetes, hypertension or heart disease), are more vulnerable to becoming severely ill.

Diagnosis

- Absence of **specific symptoms makes the clinical diagnosis** difficult. Laboratory testing is essential for confirmation.
- **Real-time reverse transcriptase PCR (rRT-PCR)** testing is the most useful test and currently the only reliable one.

Treatment

- Currently, there is **no uniform policy** for treatment. Right now, **no vaccine** is available for COVID-19.
- Major problem with vaccine production is the **genetic alterations which the virus undergoes**.
- In a recent study, it was identified that **monoclonal antibody (CR3022) binds with the spike RBD of SARSCoV-2**, a structure essential for attachment of virus to the host cells.
- Monoclonal antibodies can be developed as a therapeutic candidate, alone or in combination with other neutralising antibodies for the prevention and treatment of COVID-19 infection.

Conclusion

How far this pandemic of COVID 19 damages us is **solely in our hands**. If we follow **personal and social behavioral discipline**, then the damage can be minimised.

Strengthening Health Systems

Over the past seven decades, since independence, India has made a phenomenal progress in access and availability of health services.

India's Achievement So Far

- India has achieved reduction in **infant mortality rate** (IMR) from 74 per 1000 live birth in 1994 to **33 in 2017**; **maternal mortality ratio (MMR)** from 600 per one lakh live births to **122 per one lakh live births in 2015-2017** and **crude death rate (CDR) and crude birth rate** (CBR) declined to **6.3 and 20.2** per 1000 population.

- The **life expectancy at birth** has increased from **58 years to 69 years** from 1990 to 2017.
- India has **successfully eliminated diseases** like small pox, guineaworm, neonatal tetanus and polio, and **effectively controlled many communicable diseases** like, leprosy, malaria, filariasis, kalaazar and progressing well towards ending tuberculosis by 2025.
- India has largely achieved Millennium Development Goals (MDGs) and is committed to Universal Health Coverage (UHC).
- The **SDG 3 targets to achieve UHC**, including financial risk protection, access to quality essential health care services, and access to safe, effective, quality and affordable essential medicines and vaccines for all.

Challenges of Non-communicable Disease (NCD)

- The challenge is to overcome the growing incidence of **noncommunicable and lifestyle diseases** like cancer, diabetes, chronic kidney diseases, cardiovascular diseases and mental health disorders etc., as well as **to achieve the universal health coverage with indigenous, affordable and costeffective innovations**.
- **Increasing proportion of ageing population** due to concurrent demographic transition has further contributed to NCD burden.
- NCDs account for **55.4% of the diseases burden** and **62% of death in India** and is expected to rise further to over 70%.
- While the emerging new challenge of NCDs and the challenge of fighting malnutrition and communicable disease still continue, India is facing double disease burden.

Health Financing In India

- The public expenditure on health accounts for nearly **one third of the total expenditure at 1.2% of the GDP** and remaining is met by Out-of-Pocket expenditure (OOPE).
- According to the latest National Health Accounts Estimates (2016-2017), the total **spending on health in India is 3.8% of the GDP** which has reduced from 4.2% in 2004-05.
- The Total Health Expenditure (THE) per capita has increased more than three times from 2004-05 to 201617. Out of this, 32.4% is Government Health Expenditure, 58.7% household as OOPE, 7.3% social security insurance and 4.7% private health insurance.
- Reports of several NSSO Rounds show that the **households largely depend on private providers for healthcare services** but this dependence on private healthcare is declining. Catastrophic health expenditures have increased significantly in both rural and urban areas.

Government Commitments

- The **National Health Policy (NHP), 2017** aims **to double the government healthcare** spending from the existing 1.2% of the GDP to 2.5% by 2025.
- It would mean increasing the **current budgetary allocation of Rs. 69,000 crore in 2020-21 to about 4.6 times**, meaning Rs.3.17 lakh crore by 2025.
- However, to achieve the goals of Universal Health Coverage, the Government should aim to raise healthcare spending to the level of **4-5% of the GDP**.

What Is The Rationale For Spending On Health, Especially Public Health?

- In 2014, **India ranks low on life expectancy** (125/183). In 2014, India had **highest OOPE** (62.4%), almost double of China (32%) and 4.5 times of Japan.

- A study by Public Health Foundation of India (PHFI) has estimated that about **55 million Indians are pushed into poverty in a single year because of catastrophic health expenditure**.
- In 2014, India spent 5% of total government expenditure on health which is less than half of China, less than one-third of UK and Denmark.
- Studies have indicated that even **benefit to cost ratio for key healthcare interventions is 10:1**; one extra year of life expectancy raises GDP per capita by 4%.
- Investment in health creates millions of jobs, largely for women, through the much needed expansion of the health workforce.

Why It Cannot Be Left Entirely For Private Players?

- The issue of **critical regulation systems** on food, drugs and diagnostic etc; lifesaving vaccines and drugs like TB; **preventive, promotive, palliative and rehabilitative** health care; **implementation of clinical establishment rules**; gaps in medical, dental, nursing and pharmacy institutions which will not be addressed by market forces requires government interventions.
- The private market will **not address inequity of healthcare delivery systems**.

Importance Of Primary Health Care

- There is global evidence that primary health care is critical to improving health outcomes. It plays an improvement role in prevention of several disease conditions, including non-communicable diseases.
- Comprehensive primary health **care reduces morbidity and mortality** at much lower costs and **significantly reduces the need for secondary and tertiary care**.
- It also addresses preventive, promotive curative rehabilitative and palliative aspects of care.

Need For Reprioritization

- In India, to generate more resources for health commodities that harm health have been **suitably taxed but taxes** need to be earmarked for **preventive and promotive healthcare**.
- **The subsidies**, 2.28 lakh crore in budget 2020-21, are **more than the central, state and local budget on health**; hence subsidies need to be reviewed periodically.
- Raising taxes on harmful commodities may not only improve health but can generate more fiscal space for health.
- Subsidies on commodities such as sugar, diesel, kerosene and coal should be reviewed and **savings diverted to nutritious food and clean renewable energy sources**.
- Turning point in the era of taxation would be when these **taxes, labeled sin tax**, are levied to move towards **assuring healthy behavior which act as preventive health providers.**
- At the policy level, marginal increase in taxes may not yield desired outcomes. In a country like India, **inflation suppresses small increases**; hence inflation needs to be adjusted to avoid tax ineffectiveness.
- Formulation of a policy on raised taxes may not achieve defined results unless its **implementation and enforcement is monitored** effectively and coordinated till it yields desired **outcomes to reduce transport and trade illegally**.
- The design of taxes must take into account all products leading to obesity and further diabetes and cardiovascular disease.
- **Production and consumption of pulses have stagnated** in India while the output of food grains and sugar has increased.

- Hence, the **food subsidy can be used towards subsidies on pulses**, fruits, vegetables and milk which will have a far more beneficial impact on nutrition.
- Farmers of **tobacco and sugarcane** do well as these crops are **cash crops** in India. But they should be assisted to switch over to such crops that are not harmful to human health by allocating part of earmarked revenue collected through taxes for the orientation of these farmers.
- Taxes should be **imposed on specific industrial commodities** causing air water and soil pollution.

Time For "More Health for Money"

- The health sector has tremendous potential to **use digital technology** using application of machine learning, artificial intelligence, internet of things and virtual reality in making quality healthcare accessible and affordable to the people.
- It can address the issue of shortage of infrastructure.
- **Proceeds from tax on medical devices** to be used for funding government hospitals; converting existing district hospitals to medical colleges through PPP mode and attaching a medical college with district hospital in the PPP mode are some innovations in Union Budget 2020-21 to address the shortage of doctors and infrastructure.

Way Forward

- There is **a need to develop partnership with the private health sector** for co-financing secondary and tertiary health care, and with the corporate sector for allocating CSR funds in health care.
- Health insurance to finance hospitalisation to reduce OOPE and catastrophic health expenditure can also be introduced. Ayushman Bharat has a great promise but the coverage should be extended.
- A fairly large proportion of the **allocated budget remains unutilised** within the health system on account of poor absorption capacity of States, delays in funds flows, inefficient implementation of activities weak governance.
- Improving efficient budget utilisation and health systems performance would make available massive unspent funds for all envisaged growth plans.
- **Removing bottlenecks in allocation, disbursement and timely flow** of funds would also enhance utilisation of allocated funds.

Artificial Intelligence in Healthcare

Need For AI In Healthcare In India

- India's ratio **0.8 doctors per one thousand** head of population (UK: 2.8, Australia: 5, China: ~ 4)
- Average patient-to-doctor face-to-face contact of just two minutes in India. This illustrates the **challenges of extremely heavy workloads** on Indian doctors and **opportunities for AI based solutions** to make a difference.

Opportunities And Applications

1. AI in Assistance to Physicians

- AI can relieve highly-skilled medical professionals from routine activities, freeing up doctors to concentrate on the higher-value cognitive application of medical practice.
- AI-based technologies can offer improvements with speedy diagnosis and therapy selection, reducing medical errors, improving productivity, assessing and modelling risk and stratifying disease.

2. AI in Diagnostics

- AI based diagnosis can be especially helpful for **radiology, pathology, skin diseases, and ophthalmology**.
- For example, **Aravind Eye Care Systems** and **Sankara Nethralaya** have developed and validated an **AI-based algorithm for diabetic retinopathy**, which assists the ophthalmologists in screening for diabetic retinopathy on the basis of images of retina set to the doctor from peripheral centres.
- The **Tamil Nadu e-Governance Agency** is helping the health department with the shortage of radiologists by developing an AI-based system to read CT brain scans and grade them for further interventions.

3. AI for Optimising Treatment Plans

- AI can also be used for assisting doctors and patients to choose an optimal treatment protocol.
- Such technology is in use in India, China and Thailand to provide **appropriate recommendation plans for cancer treatment** using patient's details linked to medical literature.

4. AI for Monitoring/Ensuring Compliance

- The potential for AI application in remote monitoring has enhanced manifolds via the use of wearables.
- Devices can be used for helping people exercise and adopt healthy eating.

5. AI in the COVID-19 Epidemic

- The COVID-19 epidemic highlights the need for an **AI based epidemic monitoring system that can model and predict outbreaks** and help optimise scarce resources.
- AI can help fight the virus via Machine Learning-based applications including population screening, notifications of when to seek medical help and tracking how infection spreads across swathes of the population.
- A Chinese tech firm uses AI systems to **flag anyone who has a temperature above 37.3 degrees** within Beijing's Qinghe Railway Station.

Challenges and Controversies

A. Healthcare Industry Issues

- Traditional healthcare personnel **may resist new innovations**, **doctors may not trust AI systems, patients may question AI-based decision-making** and medical staff could view the changes as **disenfranchising them** from their key roles and decision-making powers.
- The required transformation to an AI-centric healthcare system requires not just trust from medical professionals, but also from patients unaccustomed to new ways of diagnosis & decision-making.
- The key challenge for policy makers is the **engendering of confidence in the outcomes** and **trust that a human medical practitioner** has an active role within the AI system.
- The challenge for the training of doctors is to address the transformational nature of AI-based healthcare, whilst not elongating the period for learning and qualification to integrate these new systems alongside everyday working practices.

B. Technology-related Issues

- AI systems and the underlying algorithms are reliant on the quality of data to perform the necessary processing and decision-making.

- The challenge within India is the disparate nature of health care related data. Each state has its own system and working process.
- This is complicated by the massworker migration between states, and highlights the need for solutions at a national level.

C. Socio-cultural Issues in Technology Implementation

- Within India, access to internet is primarily undertaken via mobile phones. While the penetration of mobile phones would at face value seem to be a positive factor for the adoption of AI.
- However, it could **inadvertently amplify the gender disadvantage** as research shows that women are less likely to own a mobile phone than men. When overlaid with patriarchal and misogynistic social factors, the real access figure could be less.
- Solutions need to take account of the Indian context where pockets of the population are socially and educationally challenged, culturally marginalised and economically disadvantaged.

D. Regulatory and Ethical issues

- Data security and privacy is especially important with the increasing use of wearables which can potentially **cause identity theft** through hacking of devices and data.
- AI is set to alter the traditional relationship between the doctor and the patient as technology plays the role of a third substantial actor. Under these circumstances, the regulators need **to provide clear and concise user agreement and privacy policies** to enhance widespread and safe adoption of these devices.

Way Forward

- AI and its applications should be **incorporated within curriculum** for medical & paramedical training.
- The technology design and implementation should take into **account cultural practices** and address the gender divide in India.
- Ethical guidelines regarding **security and privacy of data** should be protected. The data should be strictly used for clinical purposes only.
- The AI system must be **explainable and auditable**. All decisions made in the context of diagnosis or recommendations can impact on human lives. As such the underlying algorithms must be transparent and explainable to ensure ease of audit rather than acting as a black-box based system.
- AI systems should **not exhibit bias**. It must not exhibit any racial, gender or Pincode-based decision-making that disenfranchise or favour any population groups.
- AI healthcare systems must conform to human values and ethics.
- Adoption of AI based healthcare must be benefits-driven.

IOT In Healthcare

- The COVID-19 outbreak has shown the new emerging benefits of smart manufacturing, saying Industry 4.0 drives capabilities for remote operations, monitoring and maintenance of production lines and manufacturing plants.

IoT In Hospitals

- Connecting health systems together can **reduce a huge amount of manual admin tasks** by consolidating EMRs (electronic medical records), scheduling systems, and patient monitoring into one place.

- Devices that monitor glucose levels for diabetic patients keep track of blood pressure and heart rate levels and alert to issues can allow hospital staff to take care of these patients remotely while in another section of the hospital.

Connected Medication & Home Care

- By giving patients regular alerts to take their medication and encouraging them to stick to the full course, doctors and caregivers have a real-time record of patients taking medication and can track the patient's progress by connecting with other medical records.
- This is especially crucial for at-risk patients or those suffering from Alzheimer's disease or dementia who may struggle to keep track of medication without regular at-home visits.
- Using connected medication could also help to **develop a vaccine faster**. Researchers could **conduct dispersed remote trials** and potentially speed up **development of a vaccine** that would work on a wider base of individuals.

Maximising Output and Minimising Stress

- Simply by maximising the number of patients that can be attended to by doctors in the hospitals, and reducing the number of people that need to come into the hospital for regular appointments, IoT could take a huge weight off the shoulders of medical staff.

IoT to Manage Patient Care

- The scalability of IoT also comes in handy for monitoring all the patients who are high-risk enough to warrant quarantine but not serious enough to warrant in-hospital care.
- With IoT, the patients can have their temperatures taken and upload the data with their mobile devices to the cloud for analysis.

Mapping of Technologies

- The Department of Science and Technology (DST) has set up a COVID-19 task force for mapping of technologies to fund nearly market-ready solutions of diagnostics, delivery supplies.
- The taskforce will map technologies from research and development labs, academic institutions, start-ups, and MSMEs.
- The task force will identify the most **promising start-ups that are close to scale-up their production in these areas.**

Conclusion

It is now the moment for countries to fast-track the construction of new digital infrastructure, such as IoT along with AI, in addition to hastening of vital projects and major infrastructure construction that's already included in countries' financial stimulus plans.

Redesigning Public Health

The outbreak of corona virus is alerting the world about global public healthcare.

COVID and International Cooperation

- The WHO calls for boldest actions to fight against corona pandemic in association with UNO and warns countries to not undergo lockdown without public healthcare measures.
- The leaders of G-7 industrial power house pledged to halt this pandemic. There is a proposal to launch **COVID-19 Solidarity Response Fund**.

- The Asian Development Bank recently announced $6.5 billion package to its member countries to fight against the pandemic.
- Indian PM recently has given a call to SAARC nations for joint strategy to save people of this region.

Weak Public Healthcare System

- The public healthcare system is not equipped with intensive care unit and ventilators, pathology and clinical laboratories, surgical instruments with sufficient medical and paramedical forces.
- It resulted in **hard healthcare** (like pharmaceuticals, surgical instruments etc.) and **soft healthcare** (like service of doctors, specialists, nurses) **supply constraints**.
- Also, there is **a total failure on the part of global public healthcare system** in consolidating and deploying the health force to combat corona and safeguard the global community.

Re-engineering of Healthcare System

- It is time to think of building a **healthcare network with national buffer and global pump house** for public health services. The proposed national buffer can be operated as a global pump house for healthcare and to save global population.
- The **world trade organisation** in association with its member countries can work out a plan to build national buffer for health service by supporting and standardising medical education.

China's Public Healthcare Model

- China dealt with the pandemic using national buffer and pump house of medical and paramedical forces as defense force.
- The **trained medical and paramedical forces pooled for public healthcare service** using a network is called national buffer and the healthcare service is provided by operating this buffer as pump house during the time of health emergency.
- China is the **first country to adopt the strategy of national buffer** and **pump house for public healthcare service** during the outbreak of corona.

Global Trade In Health Services

- The WHO in association with WTO is drawing the attention of its members towards the global public healthcare system and promoting global trade in health services.
- WB & IMF can further identify ways to support this mechanism.
- WTO has made **provision for trade in services** under general agreement on trade in services (GATS). Serious discussions are going on at international level **to bring healthcare under its ambit** and promote global trade in health services.
- They are working out strategy to **promote global trade in health service** covering medical education under different modes of general agreement on trade in services and to operate trade in health service of **consumption abroad** (Mode-1), **cross border consumption** (Mode2), **commercial presence** (Mode-3) and **presence of natural persons** (Mode-4).

Conclusion

- Ensuring public healthcare security through the national buffer by pooling medical and paramedical force and operating it as global pump for deployment of medical force during health emergencies should be the goal of global health policy.
- The careful **examination of population cartogram** shows that large countries of the world with small population shrink in size if public healthcare system is not sound enough to protect their population. This is a serious warning to all developed nations to work out some strategy.

- This strategy for global trade in health services **increases export earnings** of member countries besides acting as an engine of economic growth.
- The strategies **should aim at exploiting country's comparative advantage** in niche areas of health sector with regional and international cooperation.

Resilience And National Spirit

- Indian delegation for **11th India-Japan Joint Working Group Meeting on Urban Development** reached Japan just 3 days after super Typhoon Hagibis, one of the most powerful in the last six decades, hit Japan.
- Despite this, Japan had not changed the schedule and events were organised according to the plan. This reflects resilience in Japan's approach towards disasters.

Disaster & Japan

- The most devastating being Great Hanshin earthquake 1995, Great East Japan earthquake 2011 and Tsunami which triggered the Fukushima Daiichi nuclear disaster.
- Japan's **political and economic commitment to disaster risk reduction and resilience** has been a leading example for the whole world to see.

India's Preparedness

- In India as well, natural disasters are a common phenomenon.
- Cyclone Fani wreaked havoc in Odisha. The preparedness of disaster management authorities was well appreciated across the world, when the coastal authorities in Odisha moved more than a million people from the area within **Cyclone Fani's projected path** onto higher ground, significantly reducing the death toll to 89.
- India's preparedness for natural disasters has increased a lot in recent times, **but there is still a long way to emulate the Japanese Spirit**.

How Japan Was Able To Stand Again After WW-II?

- In the 1950s, Japan, still ravaged by the war, aimed to become modern, peaceful and part of the world's economic elite.
- One of the key elements in the construction of this renewed Japanese society was building of a monument to symbolize Japan's ascendancy as a global economic powerhouse.
- This led to the planning of **Tokyo Tower by Hisakichi Maeda**, to be taller than Empire State Building and Eiffel Tower. The project attracted thousands of Japanese construction workers and **instilled a greater sense of nationalism** in the hearts of Japanese people.
- In 1964, Japan became the center of attention when it **hosted the Tokyo Olympics**.
- Simultaneously, completion of many large-scale infrastructure projects was timed to coincide with the 1964 Olympics, including the **launch of the globally famous Shinkansen bullet train**. **Tokyo Station was rebuilt as a heritage building**.

India's Potential In This Regard

- India too has a **rich history and culture**. To realise **Sardar Patel's vision, 'Statue of Unity' was unveiled as world's tallest statue** in 2018, taller than the Statue of Liberty.

- Lately, the monument has witnessed **high tourist footfalls**, making it **one of the most visited destinations across the country**. Like Tokyo Tower of Japan, the 'Statue of Unity' of **India will serve as a symbol to imbibe a sense of national purpose**.
- India is working towards the holistic achievement of the global SDGs.
- It is running **world's biggest health assurance** scheme as well as **world's biggest financial inclusion scheme** opening over 370 million bank accounts for the poor.
- India has been able to **implement the world's largest sanitation programme under Swachh Bharat Mission**, building 110 million toilets in just 5 years.
- India is committed to **achieving the target of 450 GW of renewable energy** and on the other hand India is leading the initiatives like **International Solar Alliance, Coalition for Disaster Resilient Infrastructure**.
- India has jumped **79 positions in the World Bank Ease of Doing Business** (EoDB) rankings, currently ranked at 63, being the only large country in the world to witness such monumental progress.
- The jump of **25 places in EoDB in Construction Permits** this year is unprecedented.
- Recently, reforms and policy measures in the country have ensured commitment towards a "**one nation one belief" approach**, charting its way towards realising the vision of a $5 trillion economy.

What India Can learn from Japan?

- India needs to address the challenge of **engaging with modernity and economic development with cultural preservation**, learning from Japan.
- Japanese people have always leaned on their own unique culture, despite the global wave of westernisation. Their united effort at improving themselves, focusing on their internal strengths and competencies is commendable.
- The advanced, **precision manufacturing and kaizen quality control principles** are leading examples for the rest of the world.

Conclusion

- Thus, a lot of lessons can be taken from the Japanese national spirit of collectivism and unity.
- Our country can realise its vision for equitable growth by incorporating a sense of national pride amongst its citizens through projects of national integration, ensuring that each one of us contributes towards the natural goal of meeting the aspirations of New India.

RBI Announces Relief Measures

Liquidity Management

1. **Targeted Long-Term Operations** (TLTRO) 2.0 - To facilitate funds flow to small and mid-sized corporates, including NBFCs and MFIs. The funds availed by banks under TLTRO 2.0 should be invested in investment grade bonds, commercial paper, and non-convertible debentures of nonbanking financial companies (NBFCs), with at least 50 per cent of the total amount availed going to small and mid-sized NBFCs and micro finance institutions (MFIs).
2. **Refinancing Facilities for All India Financial Institutions** – such as **National Bank for Agriculture and Rural Development (NABARD)**, the **Small Industries Development Bank of India (SIDBI)** and the **National Housing Bank** (NHB) to enable them to meet sectoral credit needs.
3. **Reduction of Reverse Repo Rate under Liquidity Adjustment Facility**

4. Raising Limit of Ways and Means Advances of States and UTs

Regulatory Measures

1. **Asset Classification** - With respect to recognition of Non-Performing Assets (NPAs), the central bank has decided that the **payment moratorium period will not be considered while classifying assets as NPAs**. i.e., the moratorium period will be excluded while considering 90-day NPA norm for those accounts for which lending institutions decide to grant moratorium or deferment and which were standard as on March 1, 2020.
2. **Extension of Resolution Timeline** – The period for **implementation of resolution plan has been extended by 90 days**. Currently, scheduled commercial banks and other financial institutions are required to hold an additional provision of 20 per cent if a resolution plan has not been implemented within 210 days from the date of such default.
3. **Distribution of Dividend** - Scheduled commercial banks and cooperative banks shall not make any further dividend payouts from profits pertaining to FY 2019-20.
4. **Lowering of Liquidity Coverage Ratio Requirement** - To improve the liquidity position for individual institutions, Liquidity Coverage Ratio requirement for scheduled commercial banks has been brought down from 100% to 80% with immediate effect.
5. **NBFC Loans to Commercial Real Estate Projects** - The treatment available for loans to commercial real estate projects with respect to the date for commencement for commercial operations has been extended to NBFCs, in order to provide relief to both NBFCs and the real estate sector.

'Covid India Seva' - An Interactive Platform for Citizen Engagement on COVID-19

- Covid India Seva is an **interactive platform to establish a direct channel of communication** with millions of Indians amid the pandemic.
- This initiative is aimed at enabling **transparent e-governance delivery in real-time** and **answering citizen queries swiftly**, at scale, especially in crisis situations.
- It works on a dashboard at the backend that helps process large volumes of tweets, converts them into resolvable tickets, and assigns them to the relevant authority for real-time resolution.

Revival of Post- COVID-19 Indian Economy

- The **Technology Information, Forecasting and Assessment Council** (TIFAC), an autonomous technology thinktank under the Department of Science & Technology (DST), is preparing a white paper to **strategise revival of post-COVID-19 Indian economy**.
- This document would **mainly focus on** strengthening Make in India initiatives, commercialisation of Indigenous technology, developing a technology-driven transparent PDS, efficient rural health care delivery, reduction of import, adoption of emerging technology domains like AI, Machine Learning, Data Analytics and many more.

Empowering Front Line COVID-19 Warriors with iGOT e-learning Platform

- The Department of Personnel and Training has launched a **learning platform (https://igot.gov.in) to combat COVID-19** for all front-line workers to equip them with the **training and updates** in coping with Pandemic.

- The platform delivers curated, role-specific content, to each learner at his place of work or home and to any device of his choice.
- iGOT platform is designed to population scale, and will provide training to around 1.50 crore workers and volunteers in the coming weeks.

Swasth ke Sipahi Delivering Essential Services and Medicines

- Pharmacists, popularly known as "**Swasth ke Sipahi**", of Pradhan Mantri Jan Aushadhi Kendra, are delivering essential services and medicines at doorstep of patients and elderly under Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP).
- Working as part of Pradhan Mantri Jan Aushadhi Kendras (PMJAK), they are extending essential services by making available quality generic medicines at affordable prices to the common People of the country.
- PMJKs are being run by **Bureau of Pharma PSUs of India** (BPPI) under Department of Pharmaceuticals, **Ministry of Chemicals & Fertilizers**, with an objective of providing quality and affordable healthcare to anyone in need.